OEM

USER MANUAL

KPM302
KPM303

Commands manual **77200000030600**

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THE IMAGES USED IN THIS MANUAL ARE USED AS AN ILLUSTRATIVE EXAMPLES. THEY COULDN'T REPRODUCE THE DESCRIBED MODEL FAITHFULLY.

UNLESS OTHERWISE SPECIFIED, THE INFORMATION GIVEN IN THIS MANUAL ARE REFERRED TO ALL MODELS IN PRODUCTION AT THE ISSUE DATE OF THIS DOCUMENT.

GENERAL SAFETY INFORMATION

Your attention is drawn to the following actions that could compromise the characteristics of the product:

- Read and retain the instructions which follow.
- Follow all indications and instructions given on the device.
- Make sure that the surface on which the device rests is stable. If it is not, the device could fall, seriously damaging it.
- Make sure that the device rests on a hard (non-padded) surface and that there is sufficient ventilation.
- When positioning the device, make sure cables do not get damaged.
- Use the type of electrical power supply indicated on the device label. If uncertain, contact your dealer.
- Make sure the electrical system that supplies power to the device is equipped with a ground wire and is protected by a differential switch.
- Do not block the ventilation openings.
- Do not insert objects inside the device as this could cause short-circuiting or damage components that could jeopardize printer functioning.
- Do not carry out repairs on the device yourself, except for the normal maintenance operations given in the user manual.
- Make sure that there is an easily-accessible outlet with a capacity of no less than 15A in the vicinity of where the device is to be installed.
- Periodically perform scheduled maintenance on the device to avoid dirt build-up that could compromise the correct, safe operation of the unit.
- Before any type of work is done on the machine, disconnect the power supply.
- Do not touch the head heating line with bare hands or metal objects. Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

GENERAL INSTRUCTIONS

CUSTOM ENGINEERING S.p.A. declines all responsibility for accidents or damage to persons or property occurring as a result of tampering, structural or functional modifications, unsuitable or incorrect installations, environments not in keeping with the equipment's protection degree or with the required temperature and humidity conditions, failure to carry out maintenance and periodical inspections and poor repair work.

CE THE CE MARK AFFIXED TO THE PRODUCT CERTIFY THAT THE PRODUCT SATISFIES THE BASIC SAFETY REQUIREMENTS.

The device is in conformity with the essential Electromagnetic Compatibility and Electric Safety requirements laid down in Directives 2006/95/CE and 2004/108/CE inasmuch as it was designed in conformity with the provisions laid down in the following Standards:

- EN 55022 Class B *(Limits and methods of measurements of radio disturbance characteristics of Information Technology Equipment)*
- EN 55024 *(Information Technology Equipment – Immunity characteristics – Limits and methods of measurement)*
- EN 60950-1 *(Safety of information equipment including electrical business equipment)*

GUIDELINES FOR THE DISPOSAL OF THE PRODUCT

The crossed-out rubbish bin logo means that used electrical and electronic products shall NOT be mixed with unsorted municipal waste. For more detailed information about recycling of this product, refer to the instructions of your country for the disposal of these products.

- Do not dispose of this equipment as miscellaneous solid municipal waste, but arrange to have it collected separately.
- The re-use or correct recycling of the electronic and electrical equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2002/96/EC, special collection points are available to which to deliver waste electrical and electronic equipment and the equipment can also be handed over to a distributor at the moment of purchasing a new equivalent type.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with the appropriate penalties.

The format used for this manual improves use of natural resources reducing the quantity of necessary paper to print this copy.

POWER SUPPLY INFORMATION

The device is fed by a SELV power supply (Safety Extra Low Voltage).

When power supply unit is installed as accessory in the end-product, the following items must be considered:

- The power supply must be properly bonded to the main protective earthing termination.
- A suitable mechanical, electrical and fire enclosure must be provided.
- The power supply has been evaluated for use in a pollution degree 2 environment, overvoltage category II.
- An appropriate disconnect device must be provided.
- The power supply must be installed in compliance with the mounting, creepage, clearance, markings and segregation requirements of the end-use application.

CAUTION: PRESENCE OF A LITHIUM BATTERY

Risk of explosion if battery is replaced with an incorrect type. Dispose of used batteries according to the instructions.

WARNING: PRESENCE OF DANGEROUS VOLTAGES (POWER SUPPLY)

Risk of electric shock (accessory power supply).

WARNING: PRESENCE OF HAZARDOUS MOVING PARTS

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1 INTRODUCTION

1.1 Document structure

This document includes the following chapters:

1	INTRODUCTION	information about this document
2	DESCRIPTION	general description of device
3	INSTALLATION	information required for a correct installation of the device
4	OPERATION	information required to make the device operative
5	CONFIGURATION	description of the configuration parameters of the device
6	MAINTENANCE	information for a correct periodic maintenance
7	SPECIFICATION	technical specification for the device and its accessories
8	CONSUMABLES	description and installation of the available consumables for the device
9	ACCESSORIES	description and installation of the available accessories for the device
10	ALIGNMENT	information required for managing the paper alignment
11	TECHNICAL SERVICE	information required for contacting the technical service
12	ADVANCED FUNCTIONS	information about special functions available with the device

1.2 Explanatory notes used in this manual

NOTE:	Gives important information or suggestions relative to the use of the printer.
ATTENTION:	Gives information that must be carefully followed to guard against damaging the printer.
DANGER:	Gives information that must be carefully followed to guard against operator injury or damage.

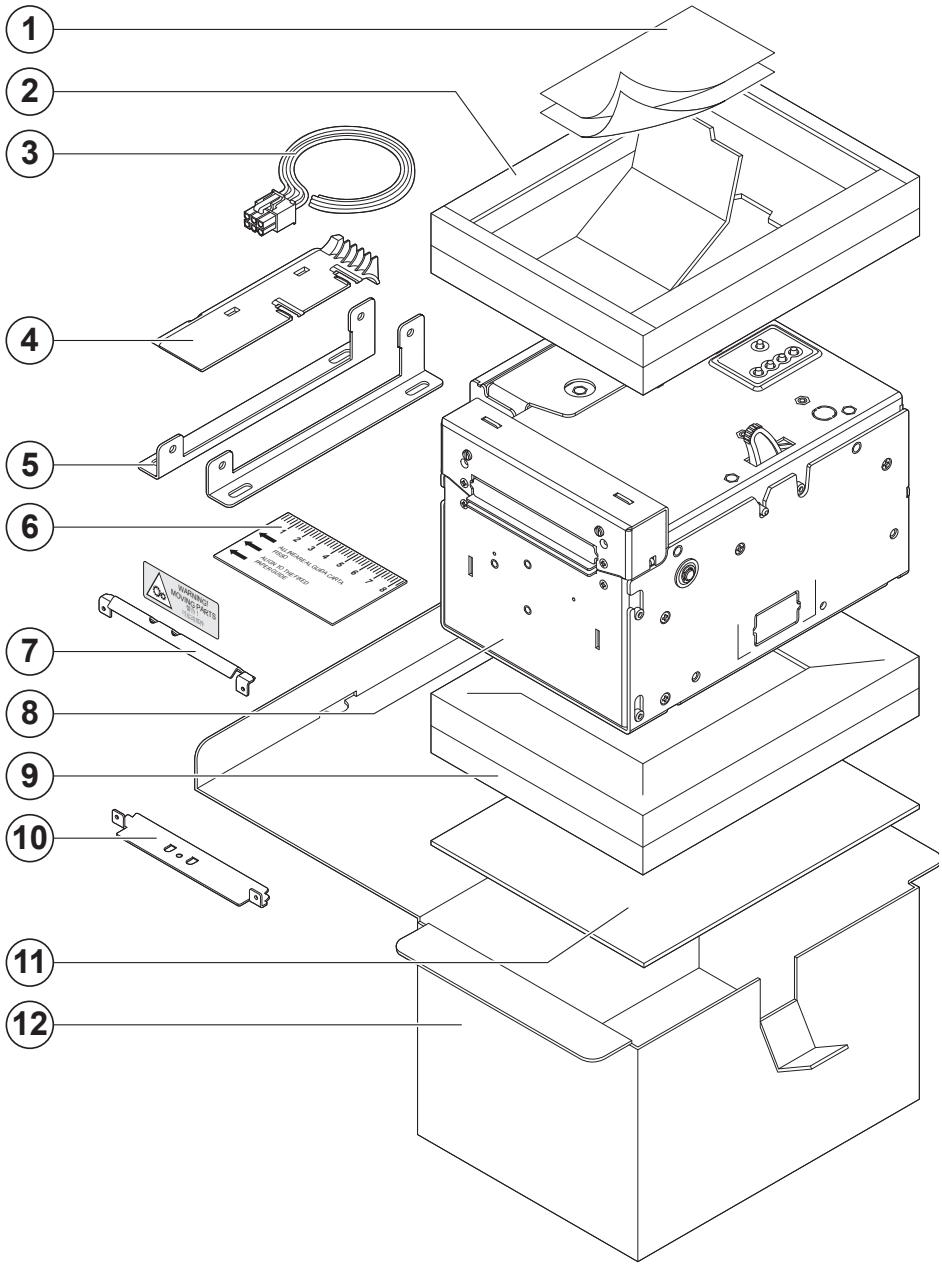
2 DESCRIPTION

2.1 Unpacking the device

Remove the printer from its carton being careful not to damage the packing material so that it may be re-used if the printer is to be transported in the future.
Make sure that all the components illustrated below are present and that there are no signs of damage. If there are, contact Customer Service.

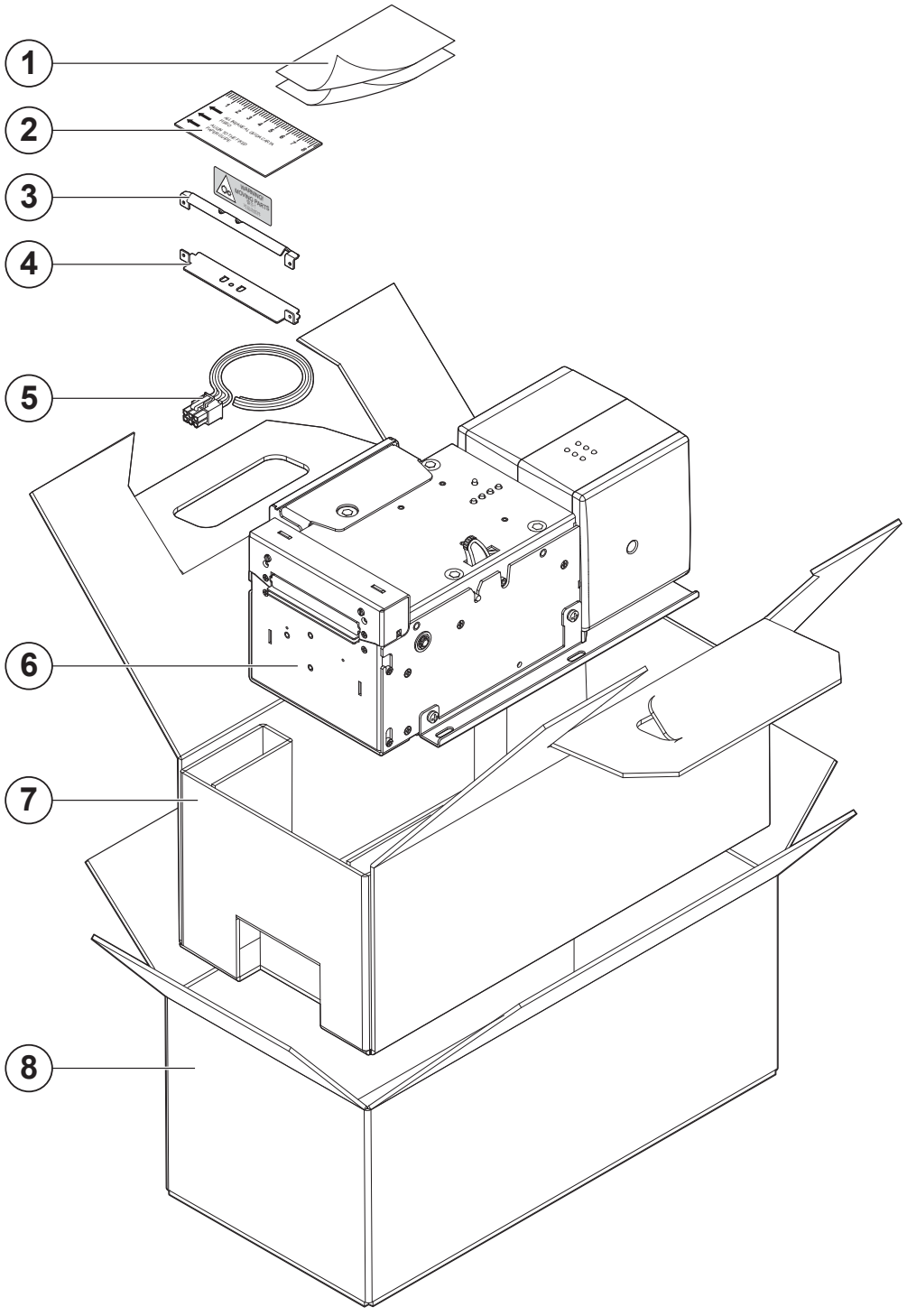
KPM302, KPM303

1. Installation instructions sheet
2. Upper packing frame
3. Power supply cable
4. Spacer *(only for standard model)*
5. Additional fixing brackets
6. Ruler
7. “CUT AND DROP” configuration kit *(only for standard model)*
8. Printer
9. Lower packing frame
10. “BURSTER” configuration kit *(only for standard model)*
11. Lower tray
12. Box



KPM302 (models with triple feeder)

1. Installation instructions sheet
2. Ruler
3. “CUT AND DROP” configuration kit *(only for standard model)*
4. “BURSTER” configuration kit *(only for standard model)*
5. Power supply cable
6. Printer
7. Lower packing frame
8. Box

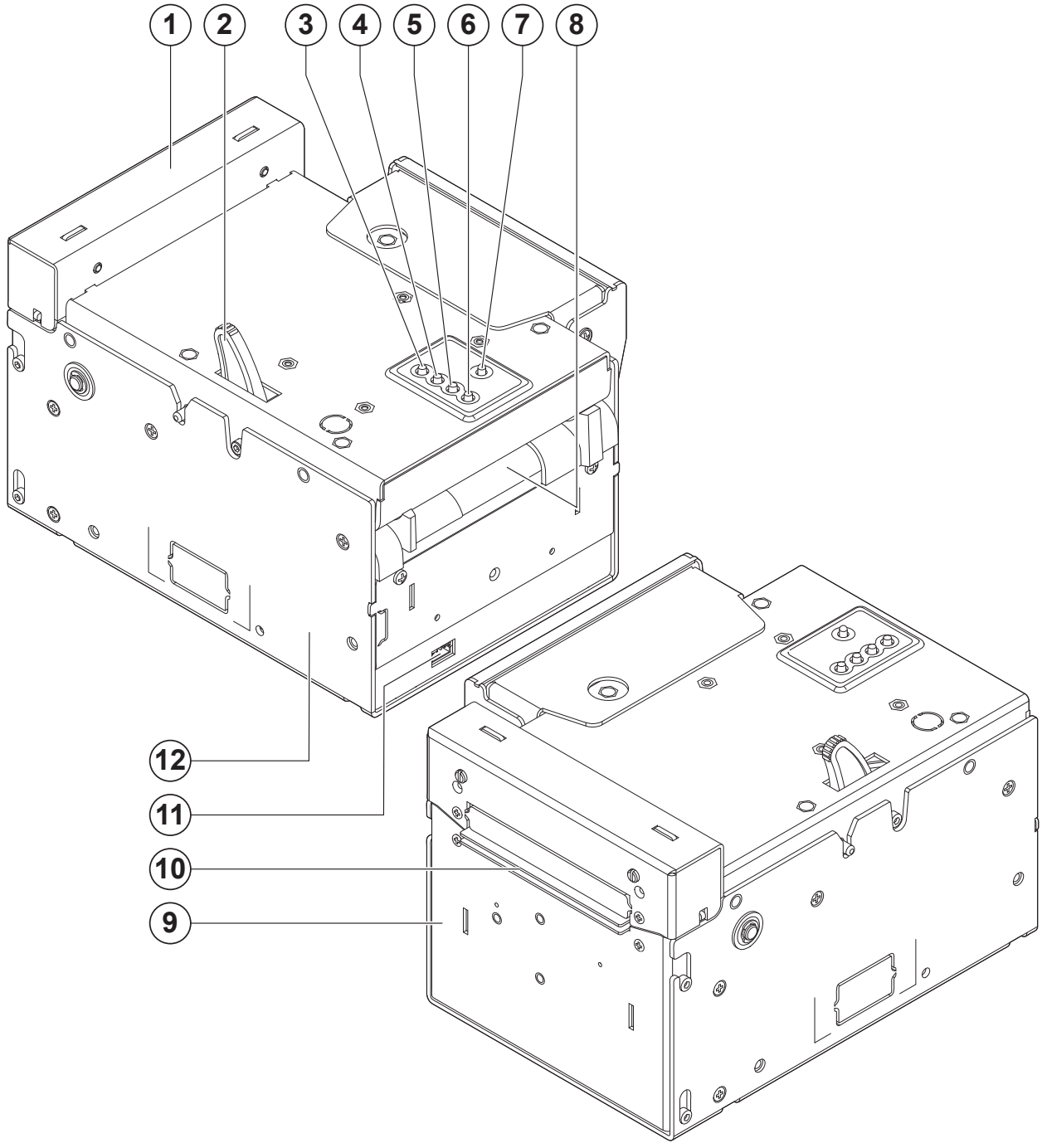


- Open the printer packaging
- Remove the upper packing frame content and remove the upper packing frame.
- Take out the printer.
- Keep the box, trays and packing materials in the event the printer must be transported/shipped in the future.

2.2 Device components: external views

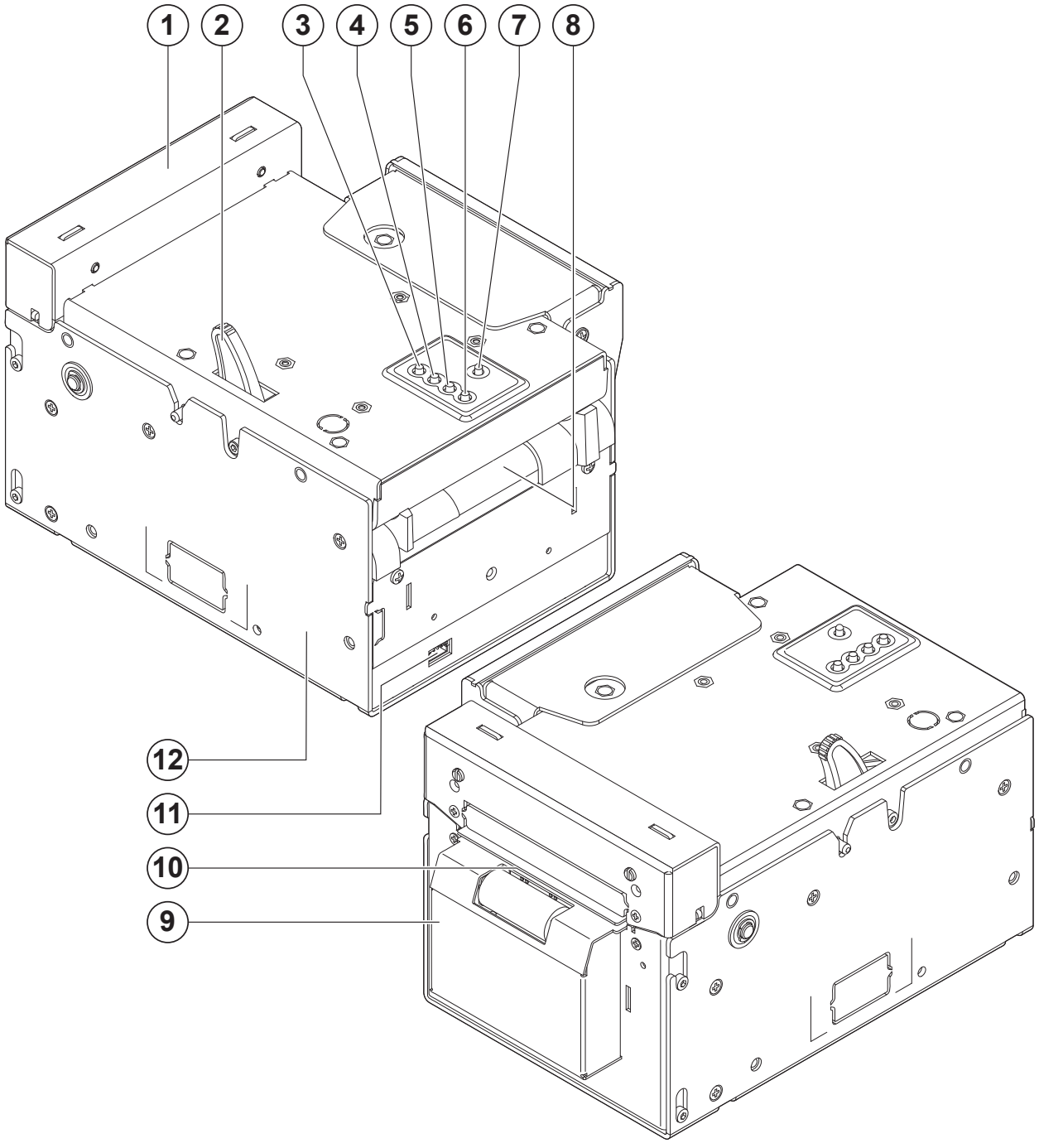
KPM302, KPM303 (standard models)

1. Printing head group
2. Release lever
3. LINE FEED key
4. FORM FEED key
5. S1 key
6. S2 key
7. Status led
8. Paper input
9. Cutter cover
10. Paper outfeed
11. External near paper end sensor connector
12. Printer chassis



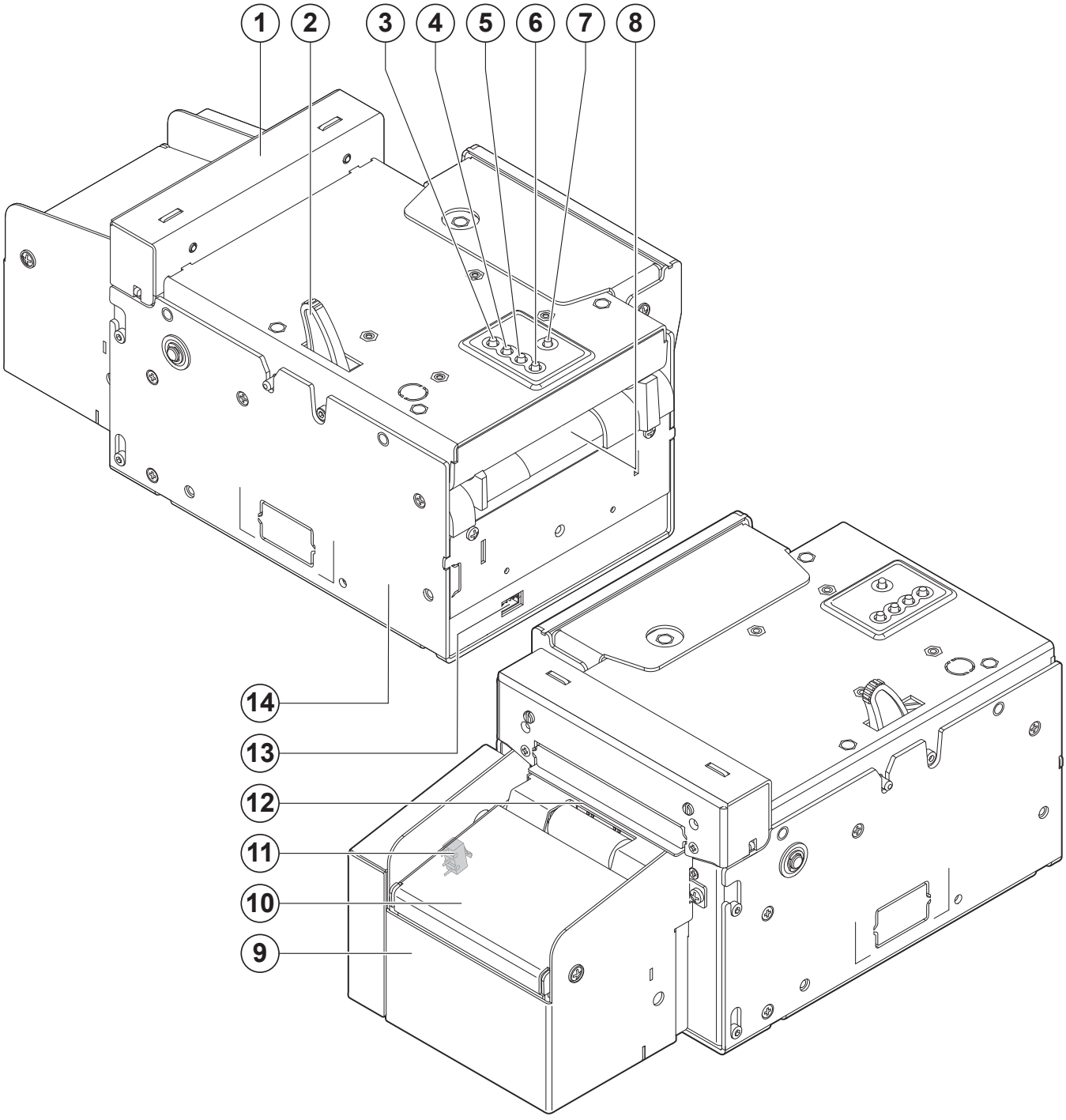
KPM302, KPM303 (models with ejector)

1. Printing head group
2. Release lever
3. LINE FEED key
4. FORM FEED key
5. S1 key
6. S2 key
7. Status led
8. Paper input
9. Cutter cover with ejector group
10. Paper outfeed
11. External near paper end sensor connector
12. Printer chassis



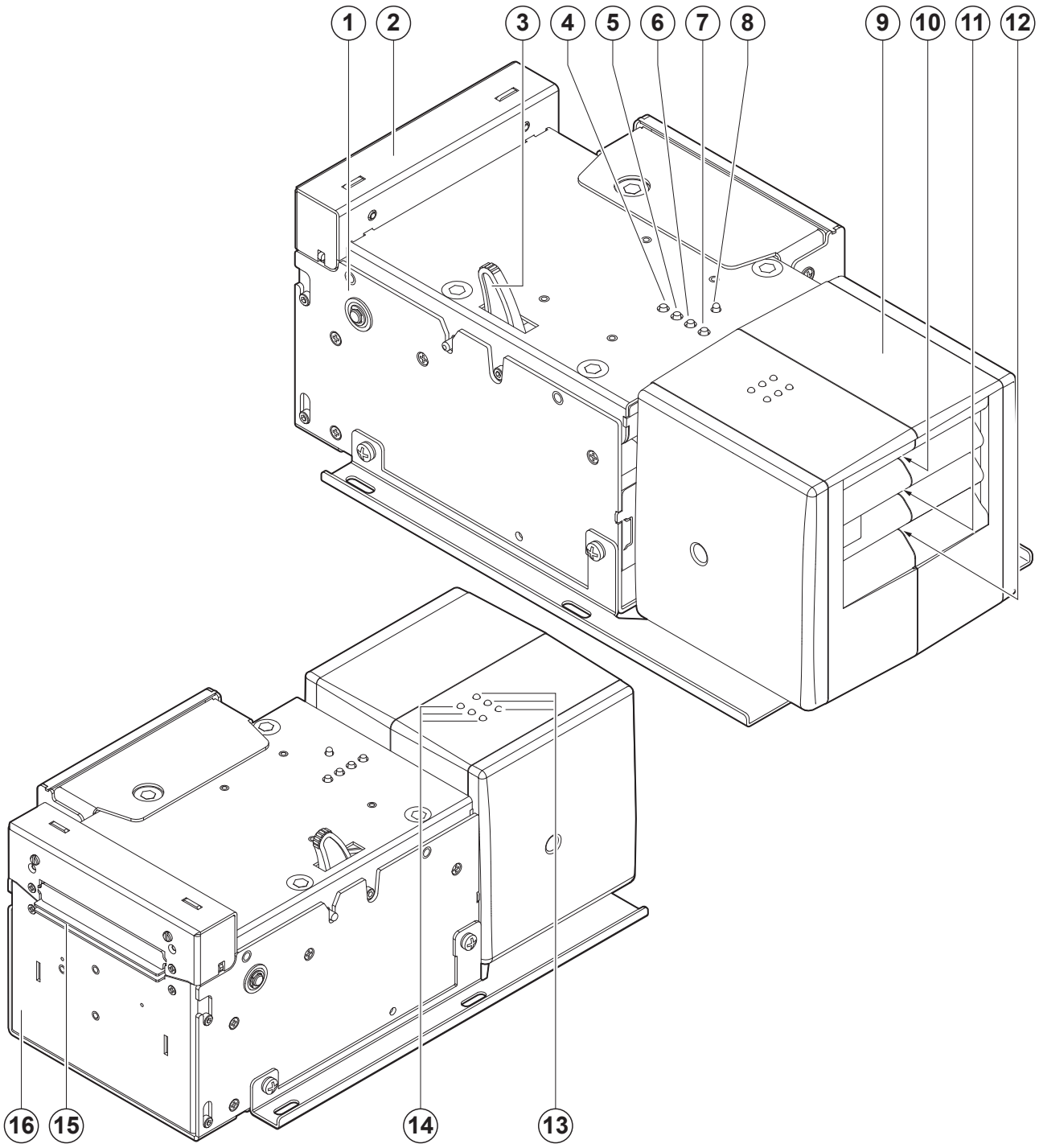
KPM302, KPM303 (models with selector)

1. Printing head group
2. Release lever
3. LINE FEED key
4. FORM FEED key
5. S1 key
6. S2 key
7. Status led
8. Paper input
9. Cutter cover with selector group
10. Tilting slide
11. Sensor for tilting slide position
12. Paper outfeed
13. External near paper end sensor connector
14. Printer chassis



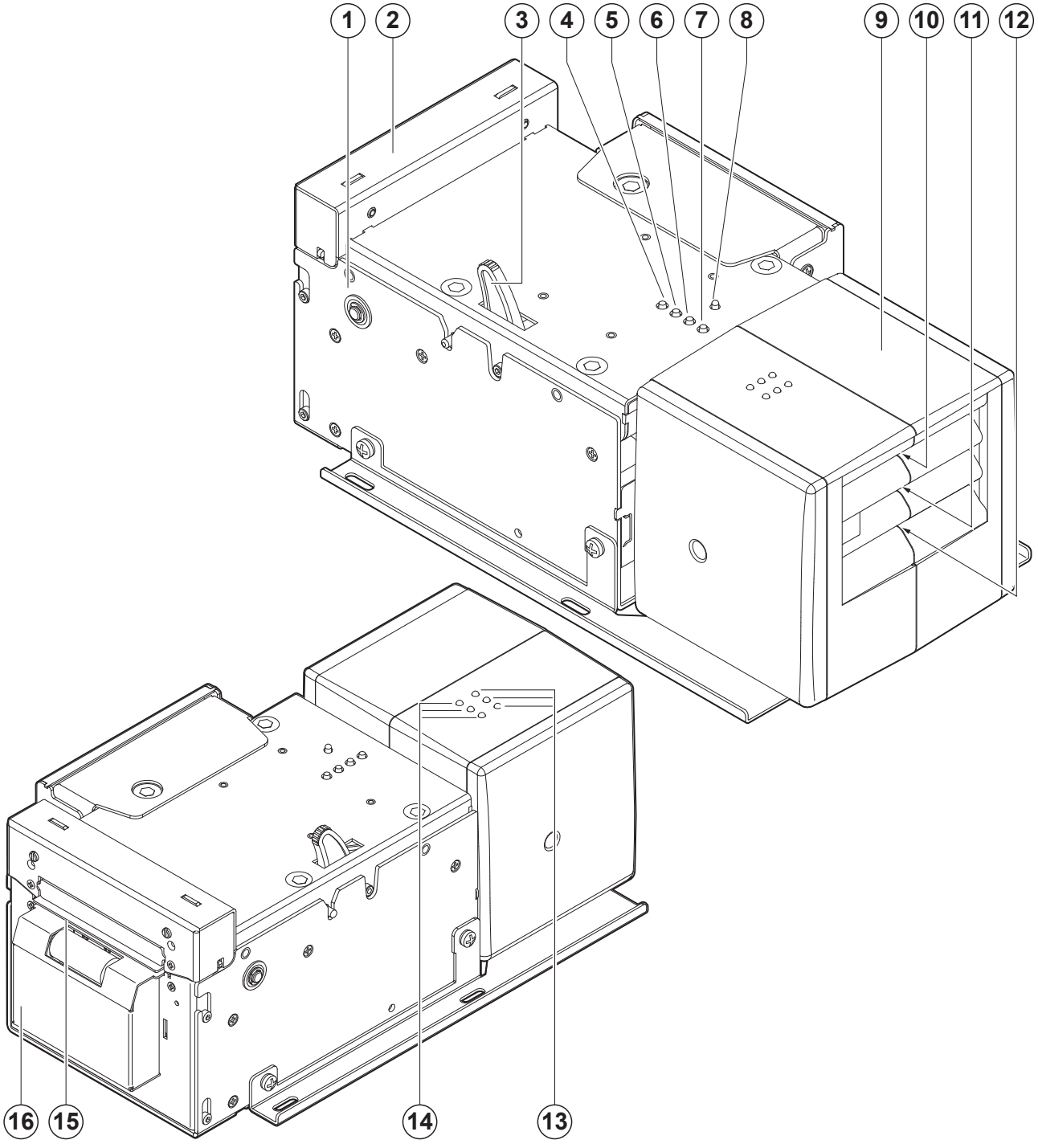
KPM302 (standard models with triple feeder)

1. Printer chassis
2. Printing head group
3. Release lever
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Paper outfeed
16. Cutter cover



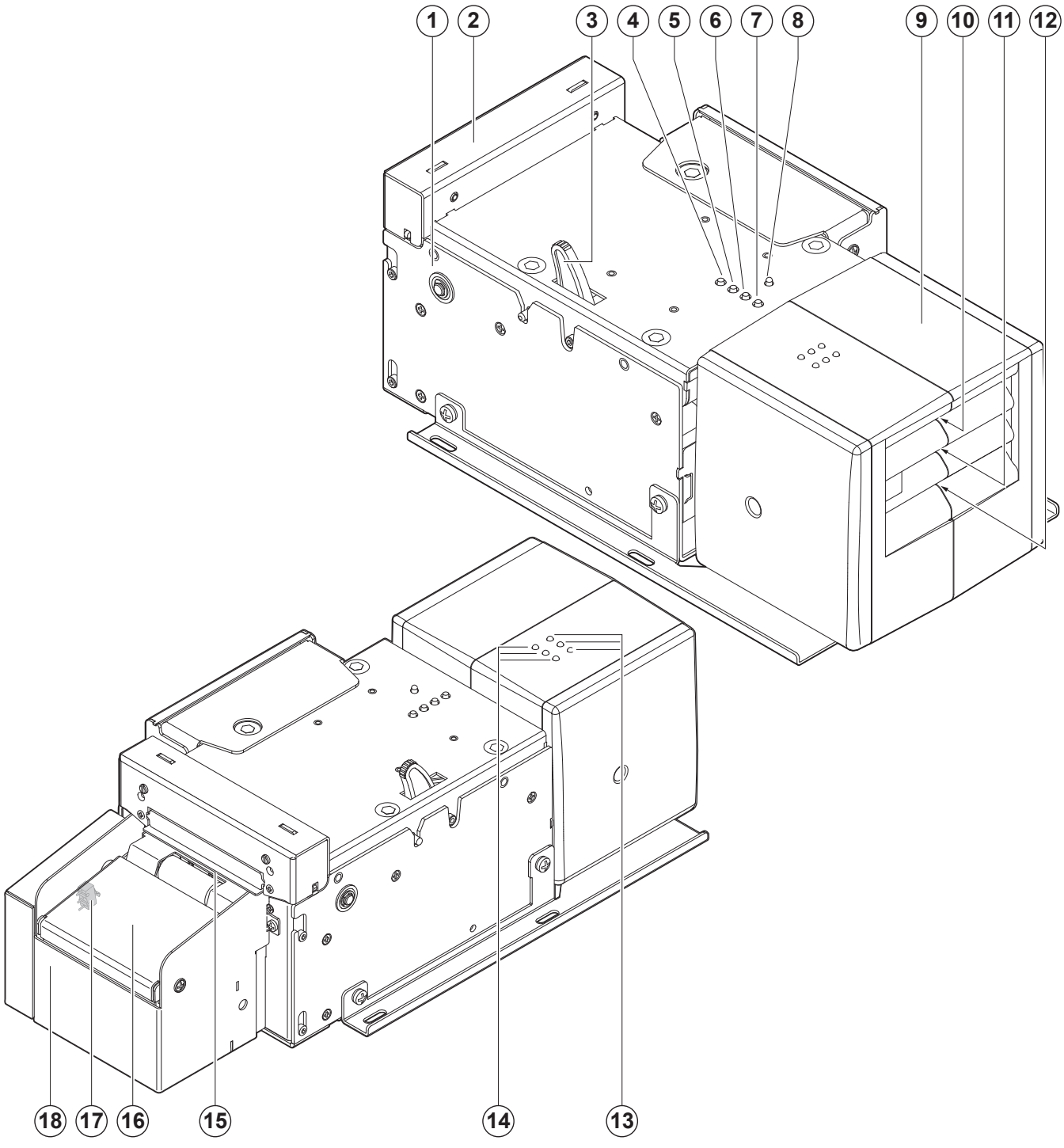
KPM302 (models with triple feeder and ejector)

1. Printer chassis
2. Printing head group
3. Release lever
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Paper outfeed
16. Cutter cover with ejector group



KPM302 (models with triple feeder and selector)

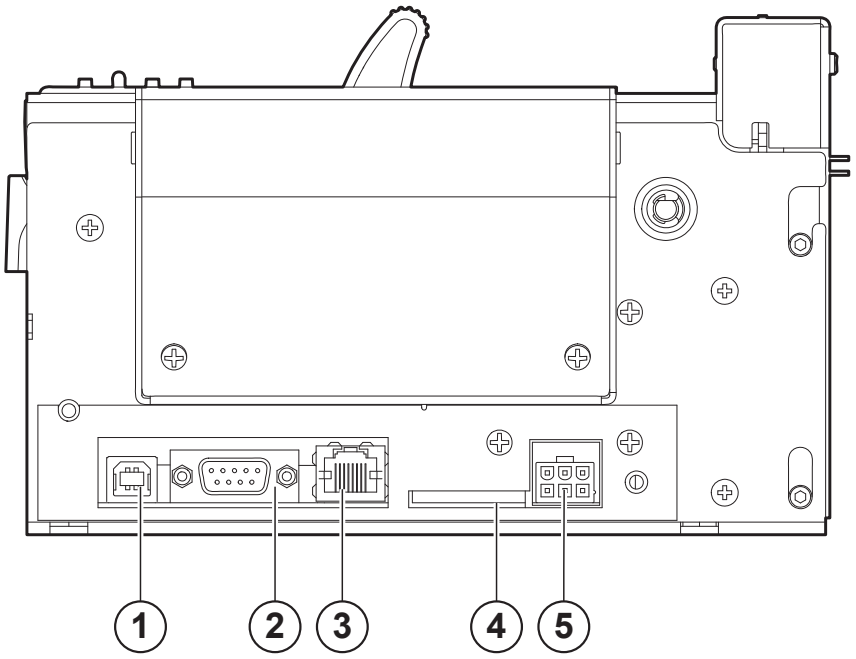
1. Printer chassis
2. Printing head group
3. Release lever
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Paper outfeed
16. Tilting slide
17. Sensor for tilting slide position
18. Cutter cover with selector group



2.3 Device components: side views

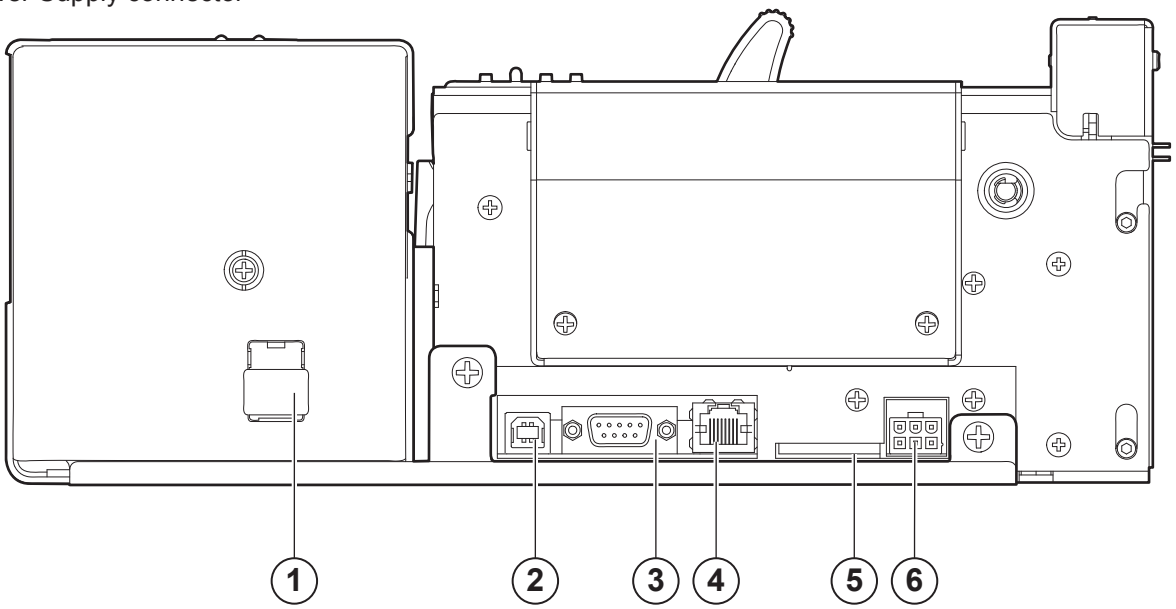
KPM302, KPM303

1. USB connector
2. RS232 connector
3. ETHERNET connector
4. SD/MMC card
5. Power Supply connector



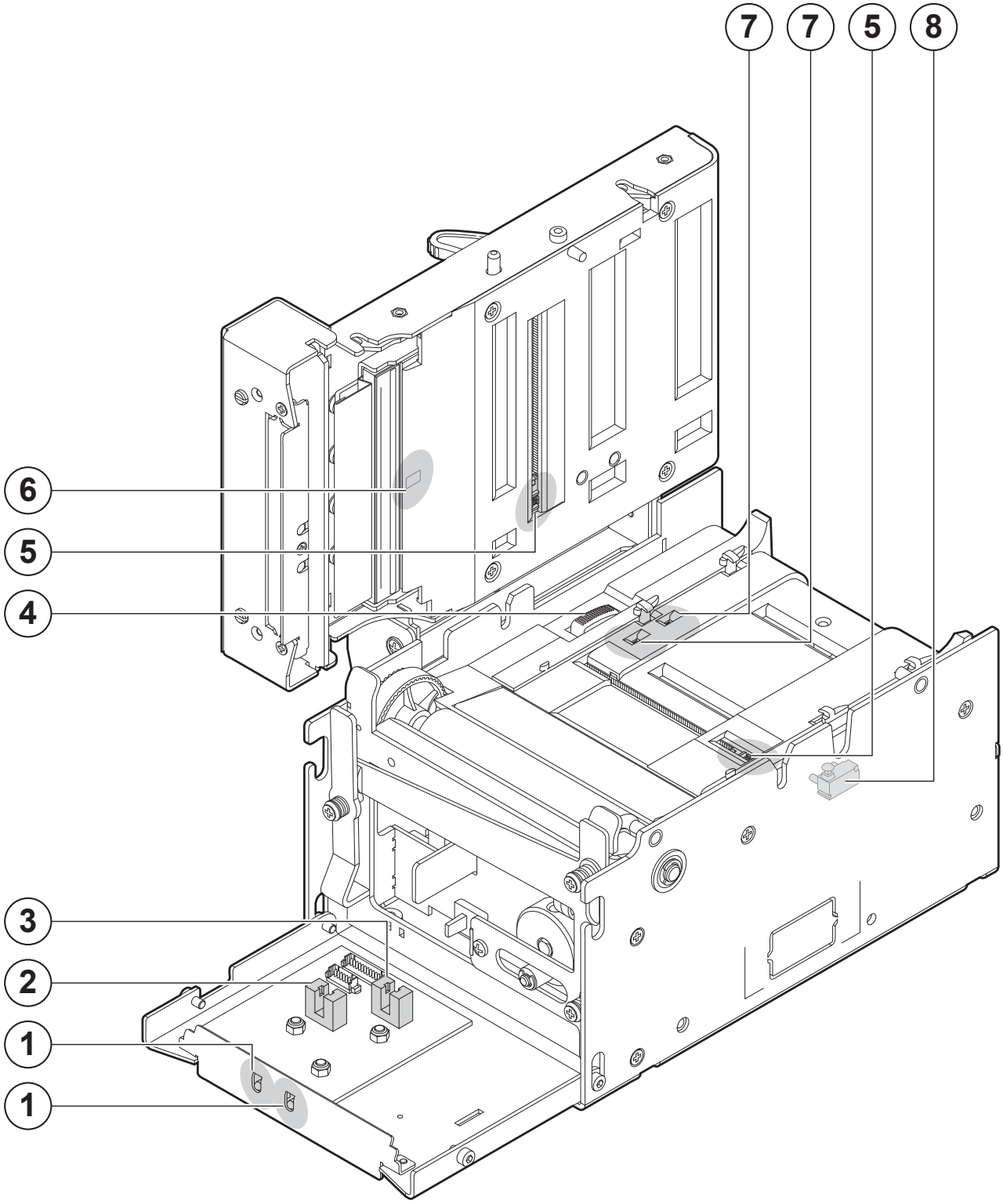
KPM302 (models with triple feeder)

1. Cover for triple feeder connectors
2. USB connector
3. RS232 connector
4. ETHERNET connector
5. SD/MMC card
6. Power Supply connector



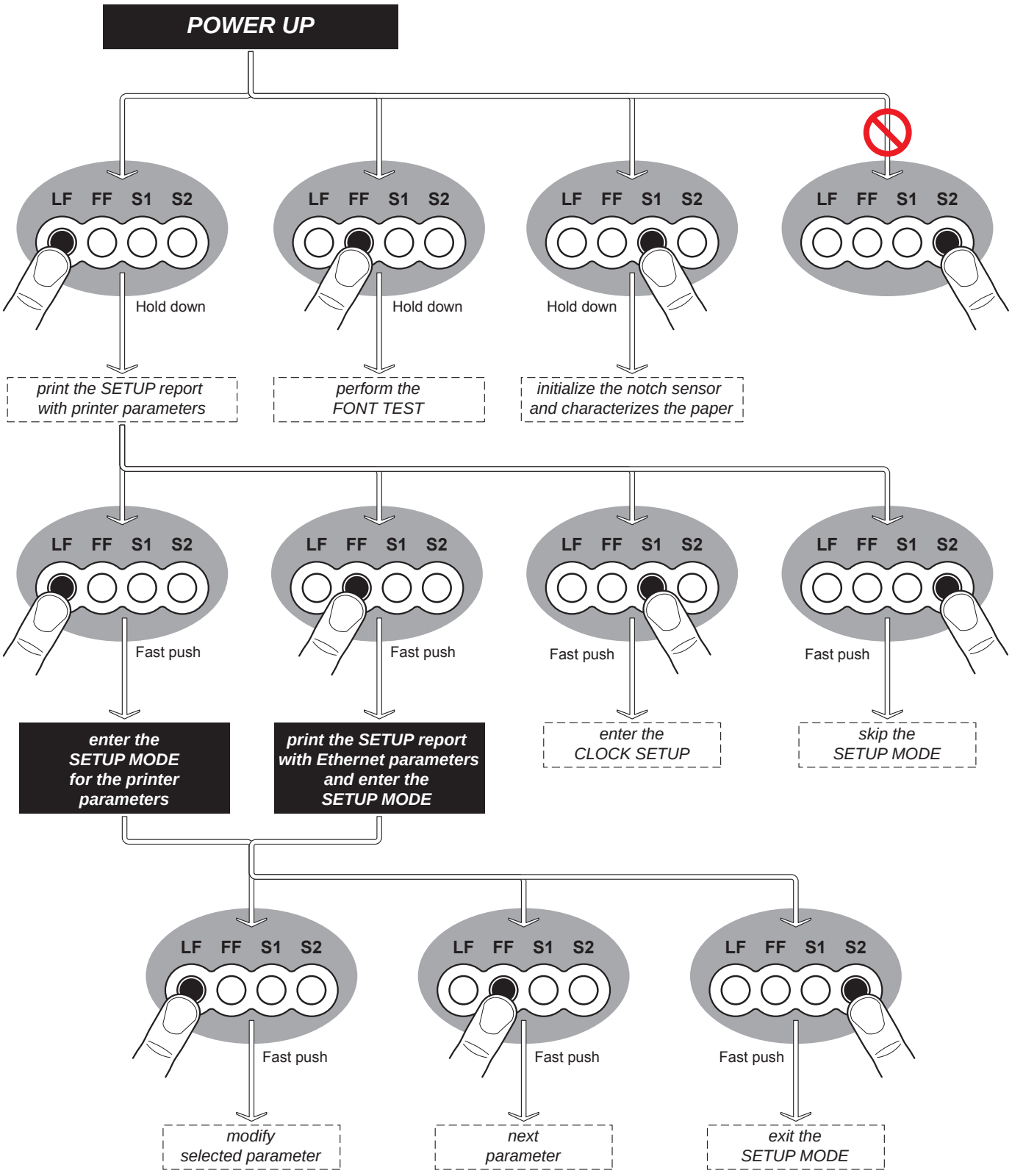
2.4 Device components: internal views

1. Sensors for paper out presence
2. Opening/closing front cover sensor
3. Cutter position sensor
4. Unlocking button for mobile paper guide
5. Mobile sensors for notch
6. Head temperature sensor
7. Sensor of paper presence
8. Opening/closing printer cover sensor



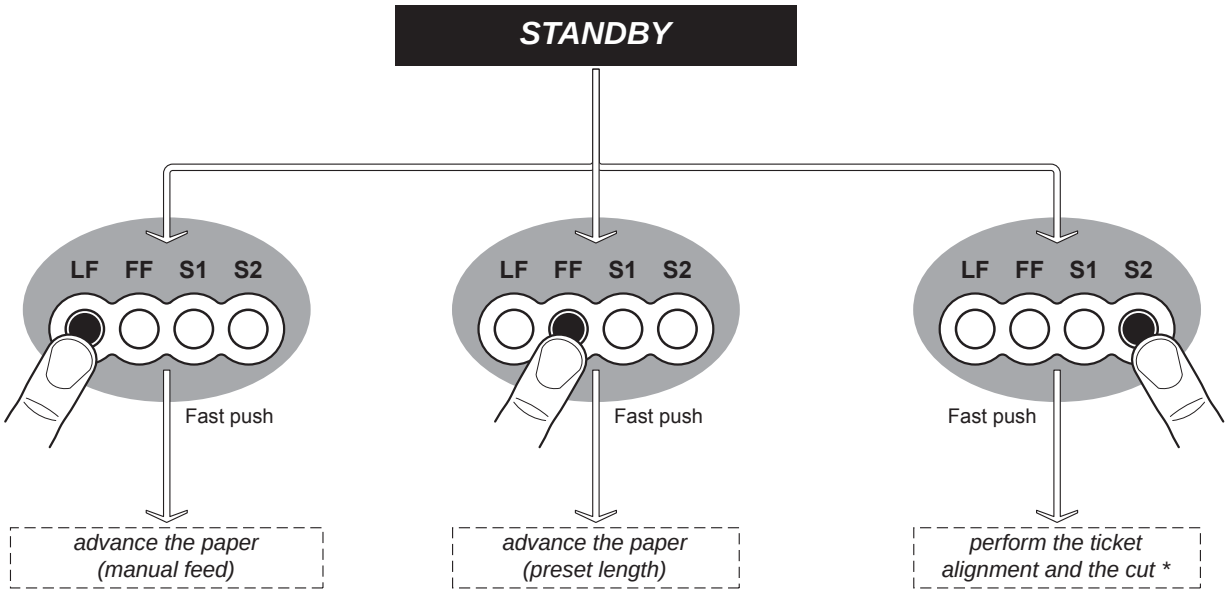
2.5 Keys functions: power up

The following figures show the functions of printer's keys according to the operating condition of the device.


POWER UP
LF FF S1 S2
Hold down
print the SETUP report with printer parameters
perform the FONT TEST
initialize the notch sensor and characterizes the paper
Fast push
enter the SETUP MODE for the printer parameters
print the SETUP report with Ethernet parameters and enter the SETUP MODE
enter the CLOCK SETUP
skip the SETUP MODE
modify selected parameter
next parameter
exit the SETUP MODE

NOTE:
During power-up, do not press the S2 key because the printer enter in a test modality that becomes unusable by keys; if this event occurs then turn off the printer and turn on without pressing any key.

2.6 Keys functions: stand by



* Only with alignment enabled.

2.7 Status led flashes

The Status led indicates hardware status of device. Given in the table below are the various led signals and the corresponding printer status.

STATUS LED			DESCRIPTION
-	○	*OFF*	PRINTER OFF
GREEN	●	*ON*	PRINTER ON : NO ERROR
GREEN COMMUNICATION STATUS	☼	*1 x*	RECEIVING DATA
		2 x	RECEIPT ERRORS (PARITY, FRAME ERROR, OVERRUN ERROR)
		3 x	COMMAND NOT RECOGNIZED
		4 x	COMMAND RECEIPT TIME OUT
YELLOW RECOVERABLE ERROR	☼	*2 x*	PRINT HEAD OVER TEMPERATURE
		3 x	PAPER END
		4 x	PAPER JAM
		5 x	POWER SUPPLY VOLTAGE INCORRECT
		6 x	COVER OPEN
RED UNRECOVERABLE ERROR	☼	*3 x*	RAM ERROR
		4 x	EEPROM ERROR
		5 x	CUTTER ERROR
		6 x	CUTTER COVER OPEN

2.8 Triple feeder led flashes

KPM302 (models with triple feeder)

The led panel of triple feeder is comprised of two led (one of green colour and one of red colour) for each of the three paper input feeder.
The led indicate the triple feeder status and the paper status. Given in the table below are the various led signals and the corresponding triple feeder status.

STATUS LED			DESCRIPTION
RED PAPER END WARNING	○	***OFF***	PAPER PRESENCE
	●	***ON***	NEAR PAPER END
GREEN TRIPLE FEEDER STATUS	○	***OFF***	NO PAPER OR PAPER IN PARKING SPACE (1)
	●	***ON***	PAPER LOADED
	☀	***slow***	PAPER END DURING PRINTING
		fast	PAPER JAM

NOTE:
(1) : The paper is in “parking space” when it is present on the entrance of feeder but it is not loaded into the printer.

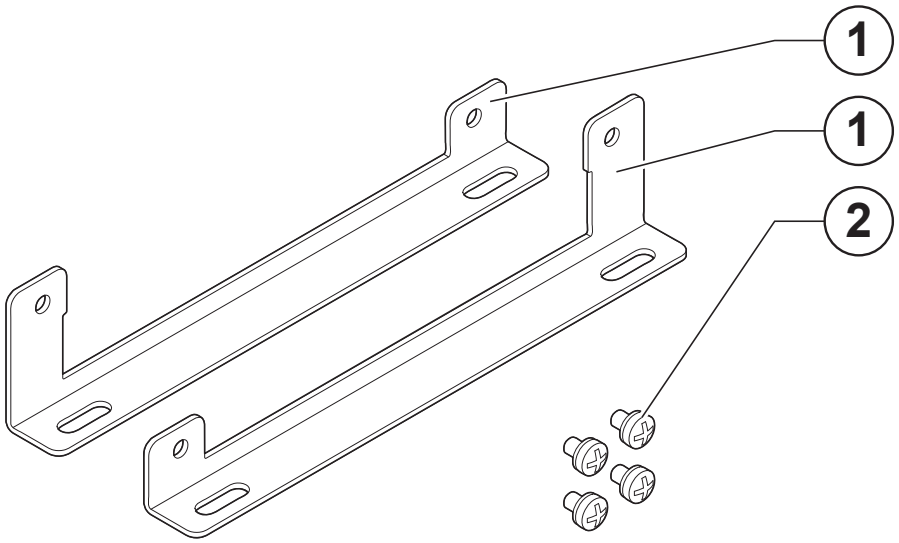
3 INSTALLATION

3.1 Fixing brackets

KPM302 (models without triple feeder), KPM303

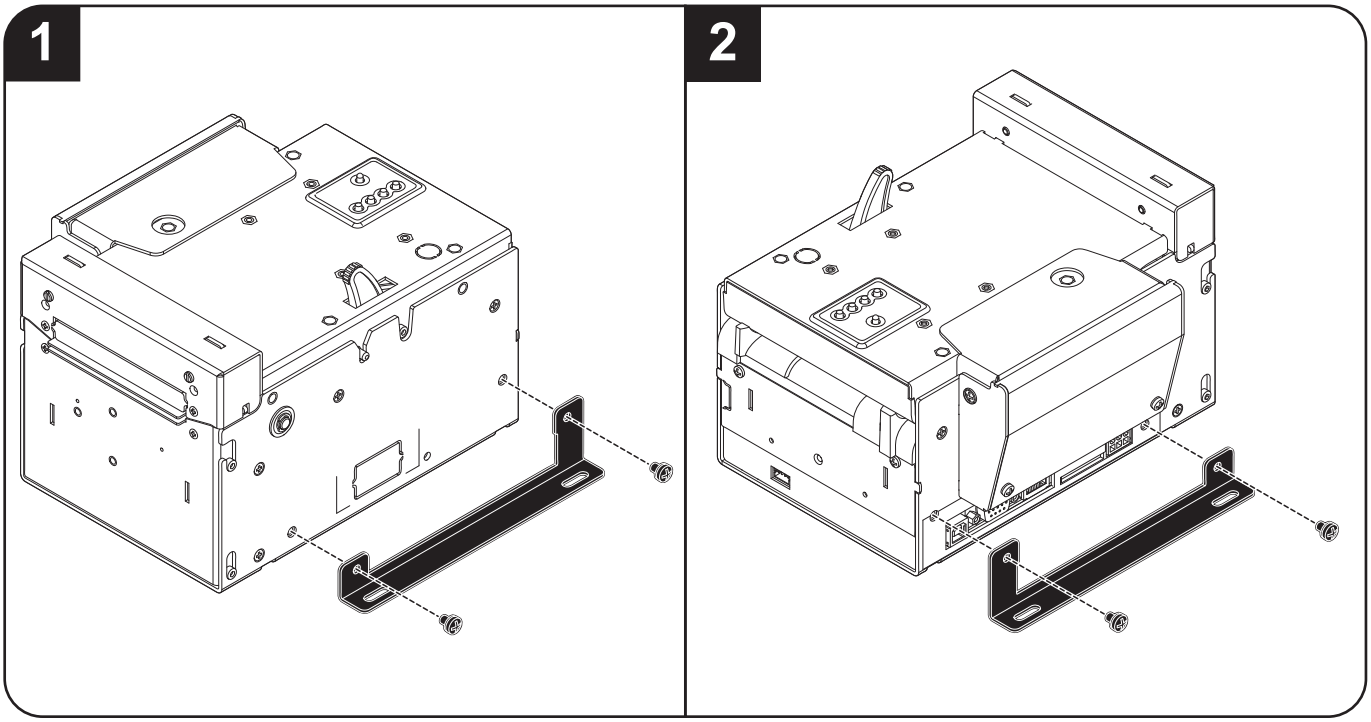
The printer includes a kit for the assembly of two additional fixing brackets (see following figure).

The kit contains:
1. Two fixing brackets;
2. No.4 fixing screws.

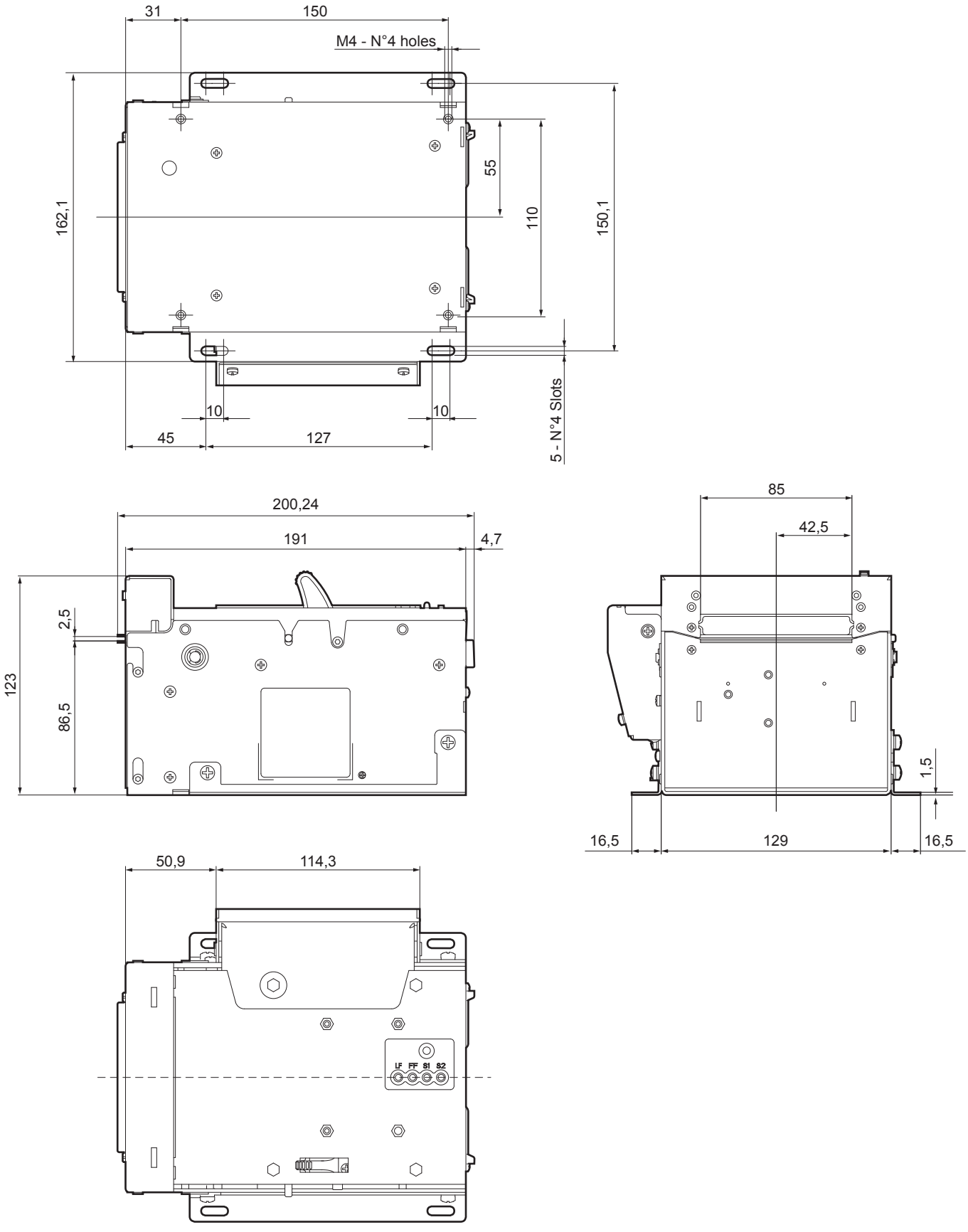


Assembly instructions

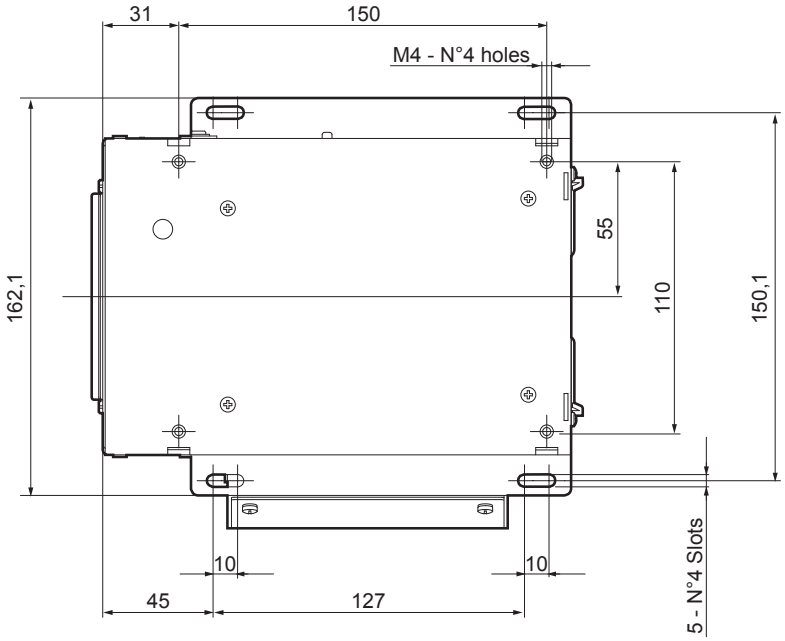
Fix the brackets to the printer as shown in the following figures.

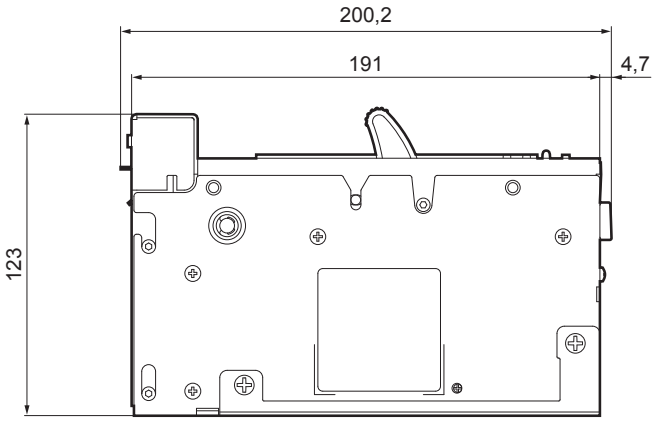


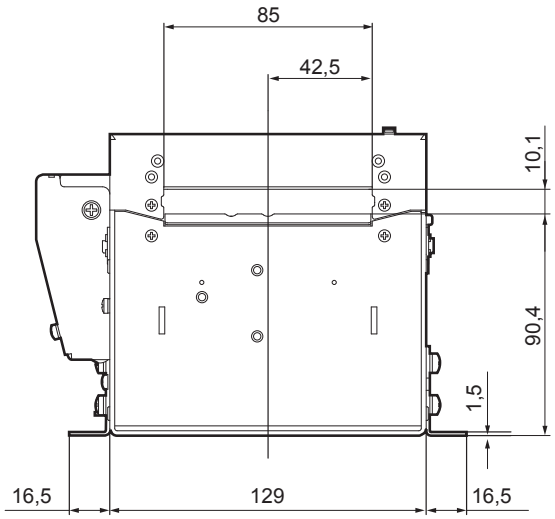
The following figure shows the printer overall dimensions with the two additional brackets (dimensions in mm).

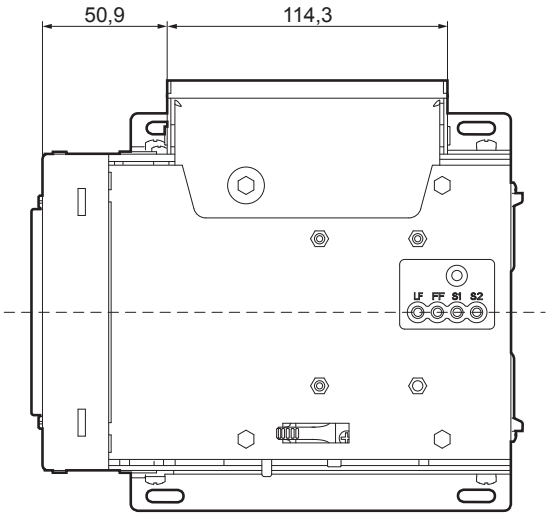


The following figure shows the overall dimensions of the printer with the “CUT AND DROP” configuration and the two additional brackets (dimensions in mm).

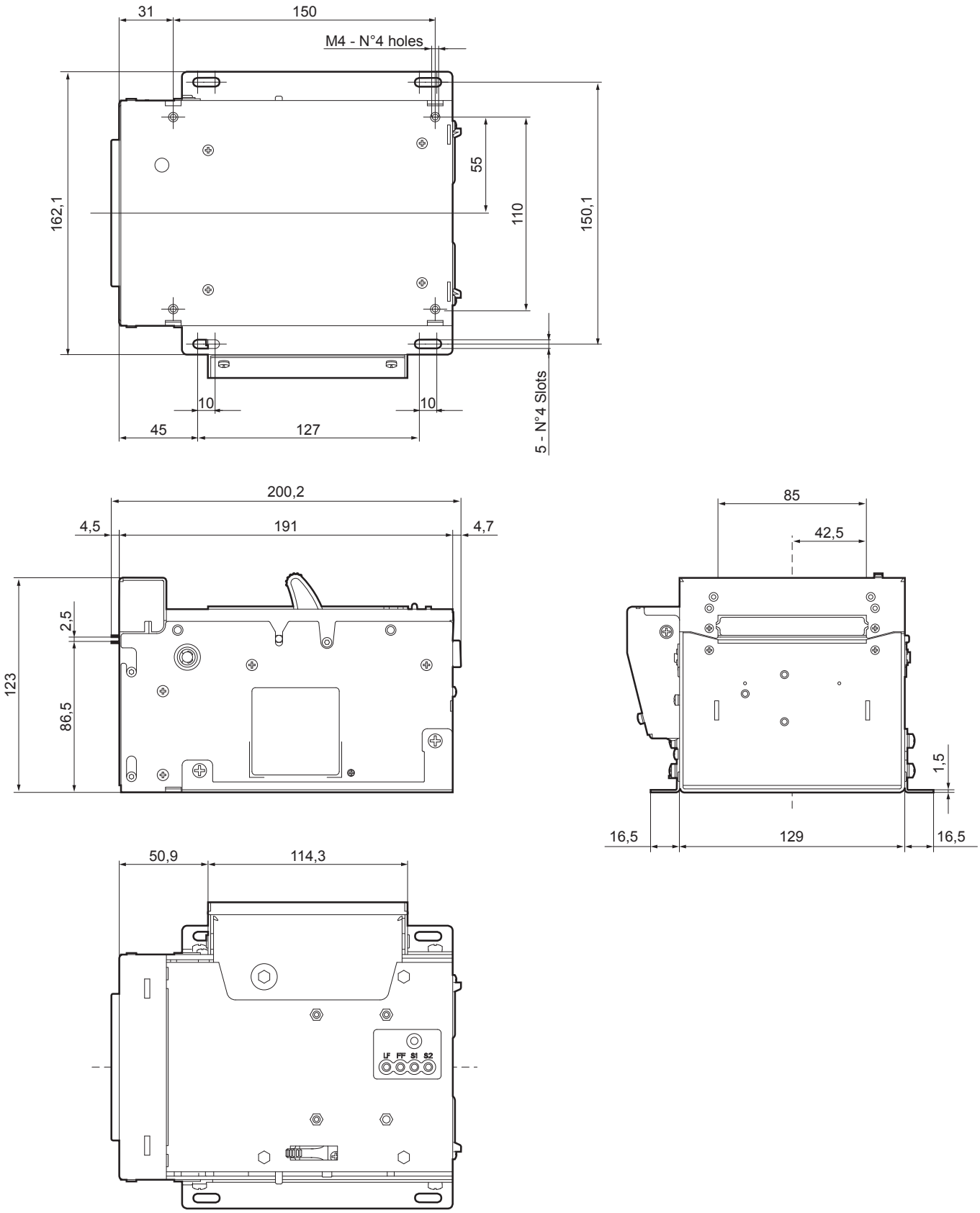








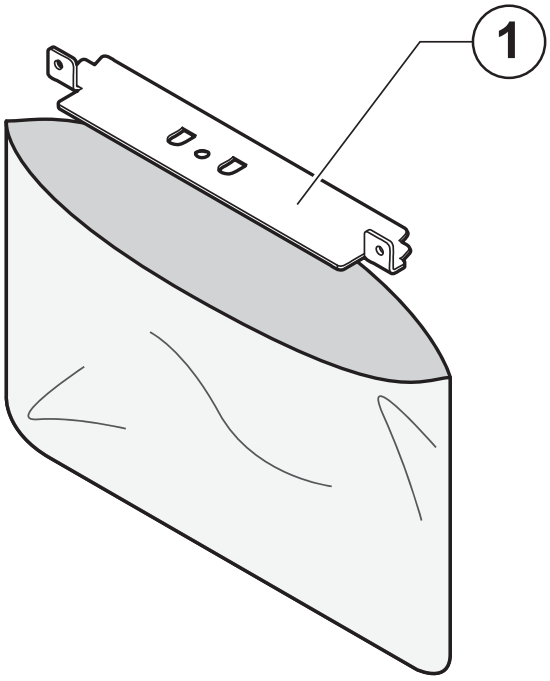
The following figure shows the overall dimensions of the printer with the “BURSTER” configuration and the two additional brackets (dimensions in mm).



3.2 “BURSTER” configuration

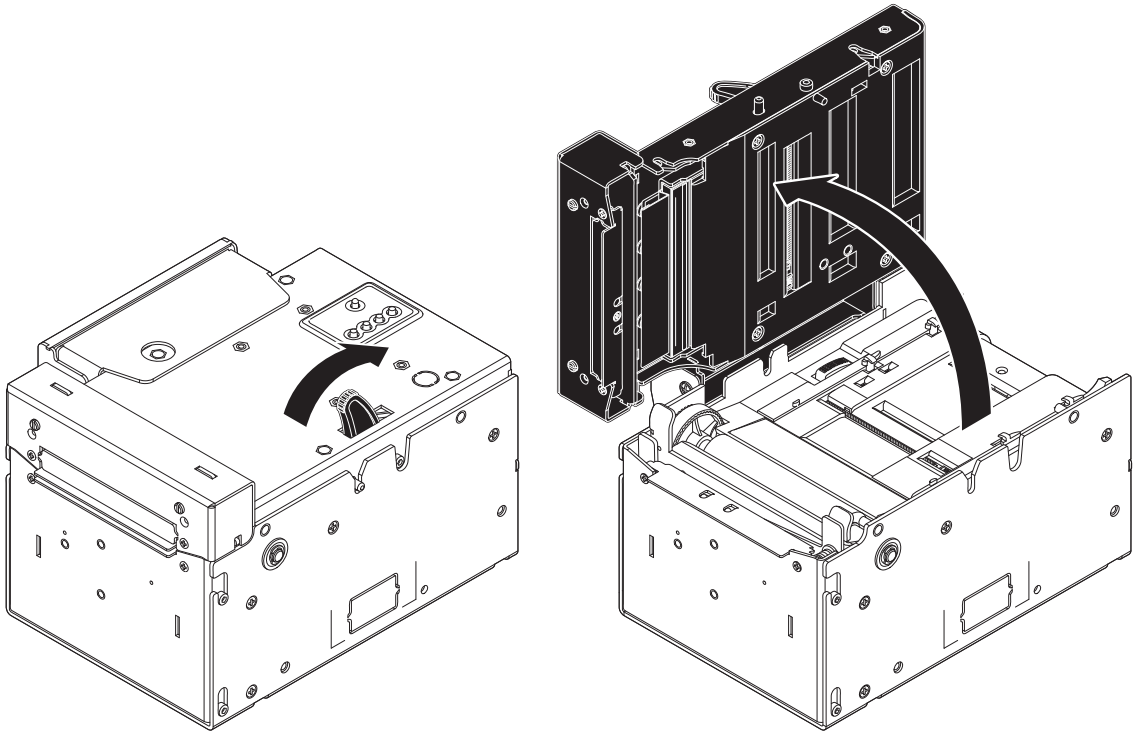
KPM302 (standard models and models with triple feeder)
KPM303 (standard models)

Printer is provided with a kit for the “BURSTER” configuration (see the following figure).
The kit contains:
1. Upper paper out feed mouth.



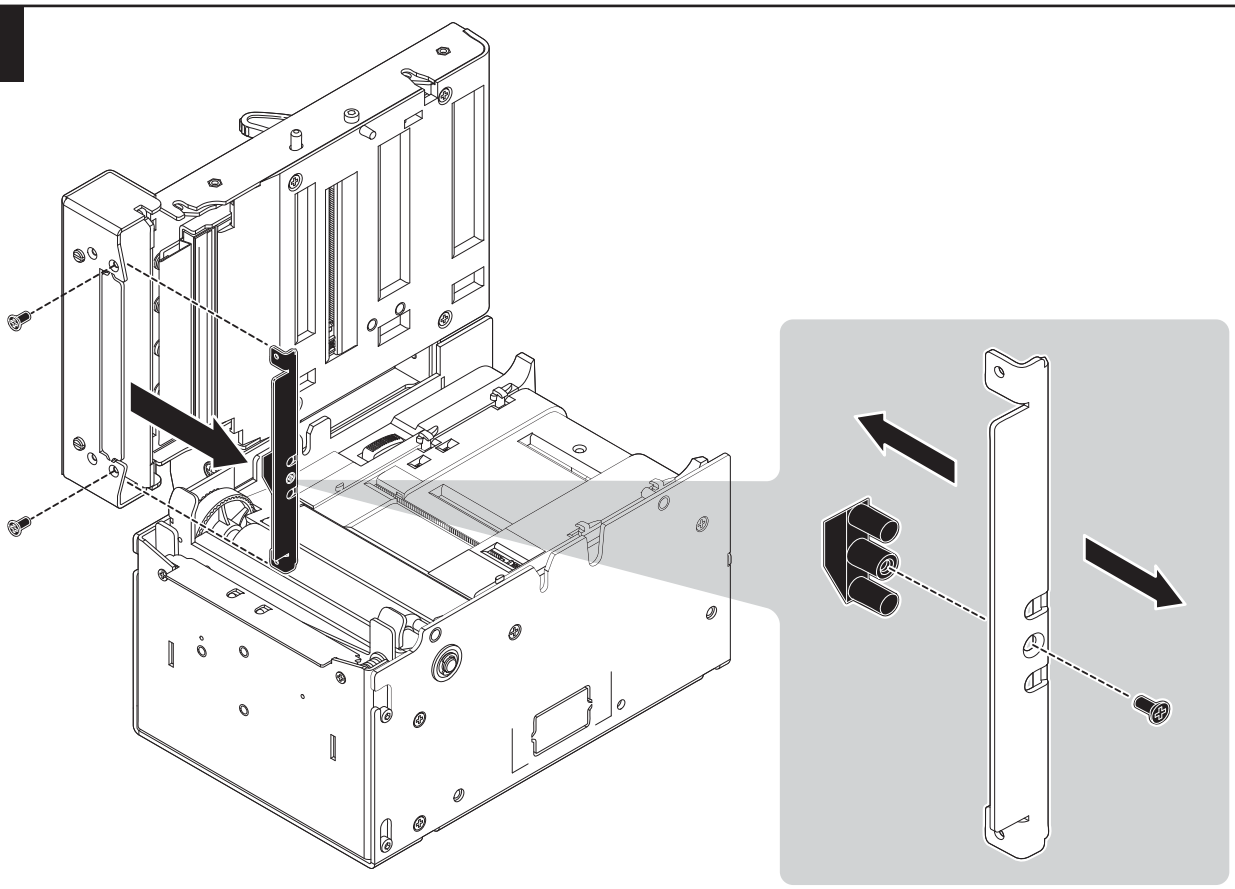
For the assembly procedure, proceed as follows:

1



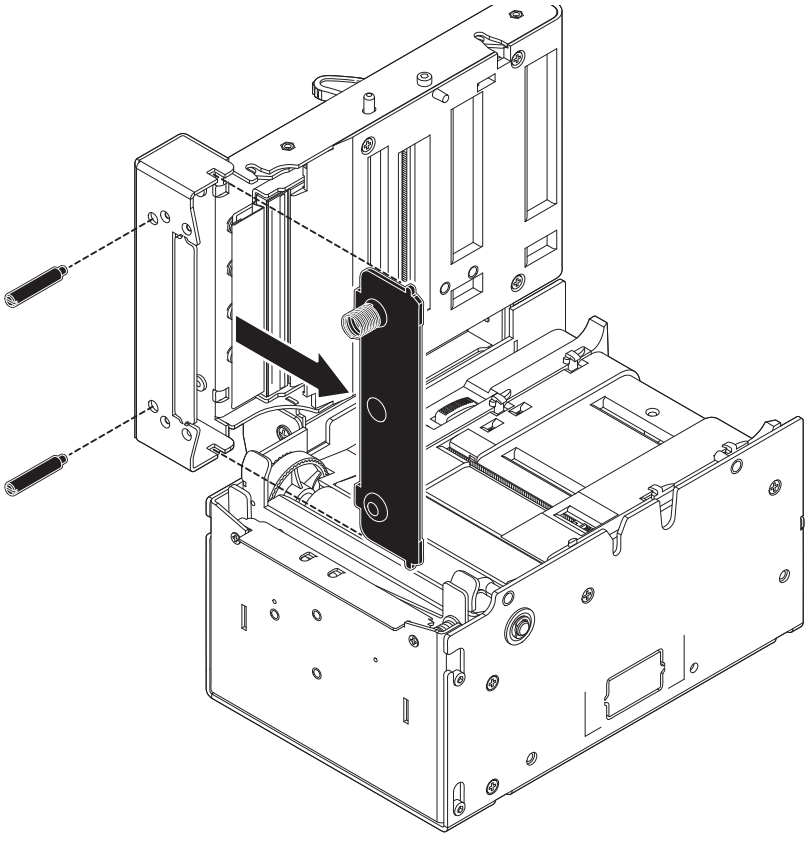
Open the printer cover.

2



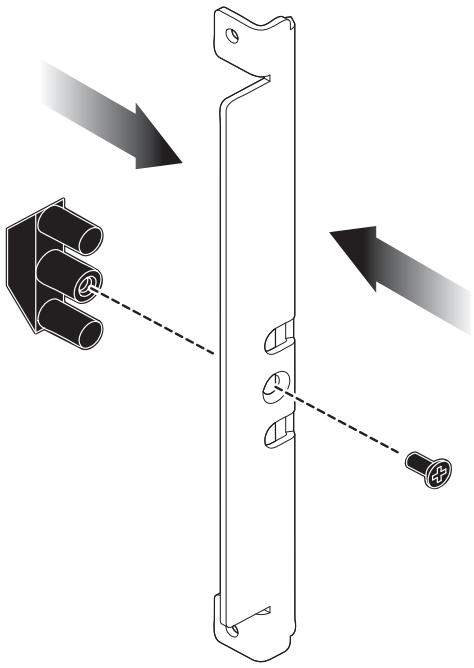
Unscrew the two fixing screws and take off the upper paper mouth group of the “STANDARD” configuration.
Unscrew the central fixing screw and divide the paper mouth from the light guide.

3



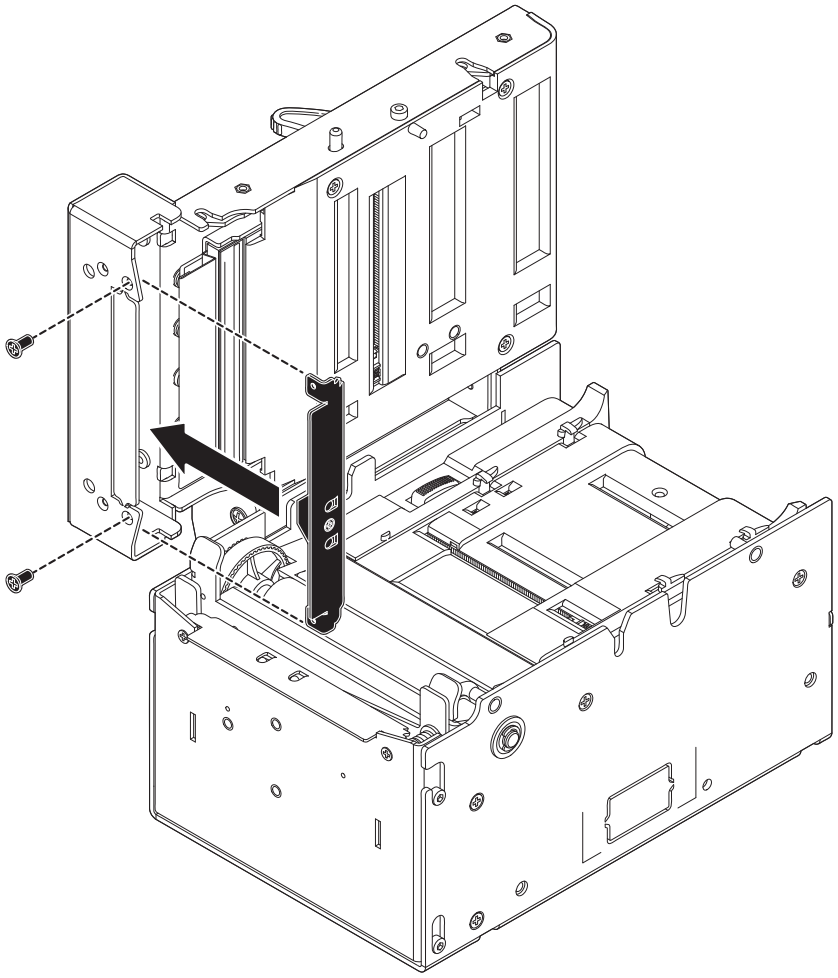
Unscrew the fixing pins and take off the fixed blade and the spring.

4



Fix the light guide with the upper paper mouth of the “BURSTER” configuration using the screw previously removed.

5

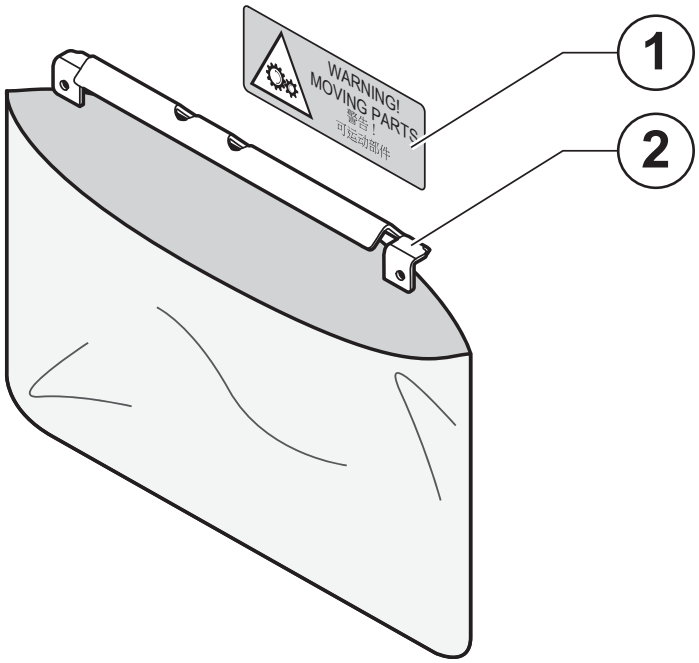


Fix the upper paper mouth group for the “BURSTER” configuration using the screws previously removed.

3.3 “CUT AND DROP” configuration

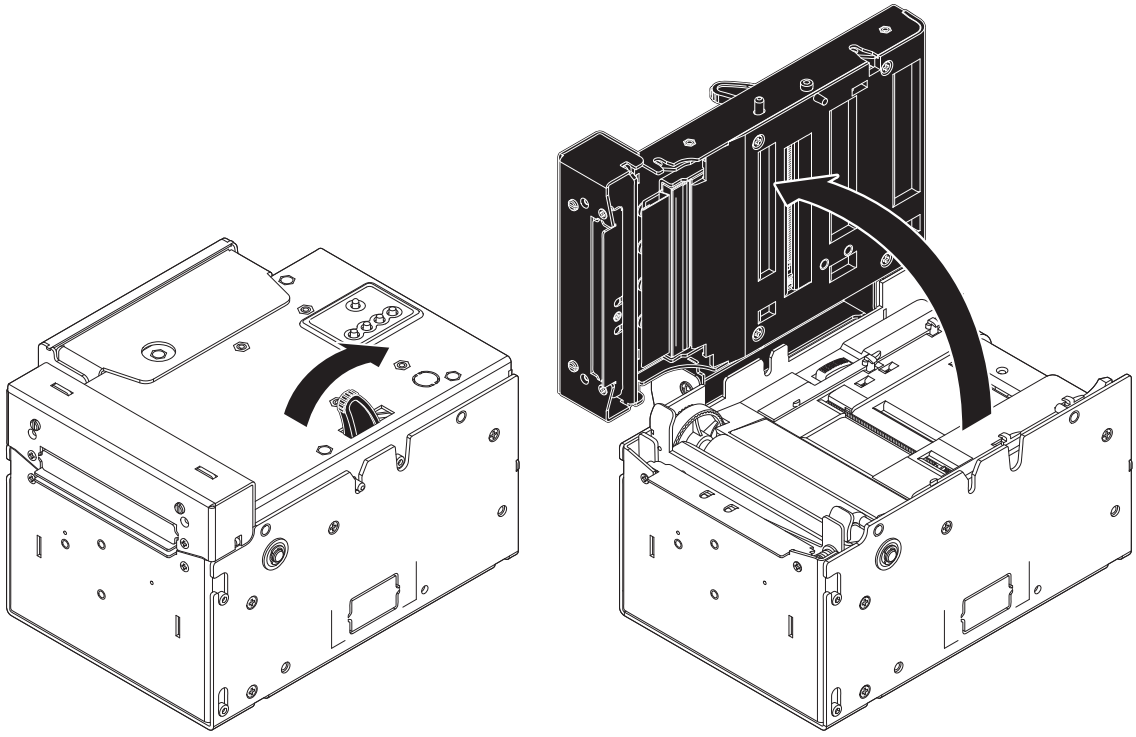
KPM302 (standard models and models with triple feeder)
KPM303 (standard models)

Printer is provided with a kit for the “CUT AND DROP” configuration (see following figure). The kit contains:
1. Label.
2. Upper paper out feed mouth.



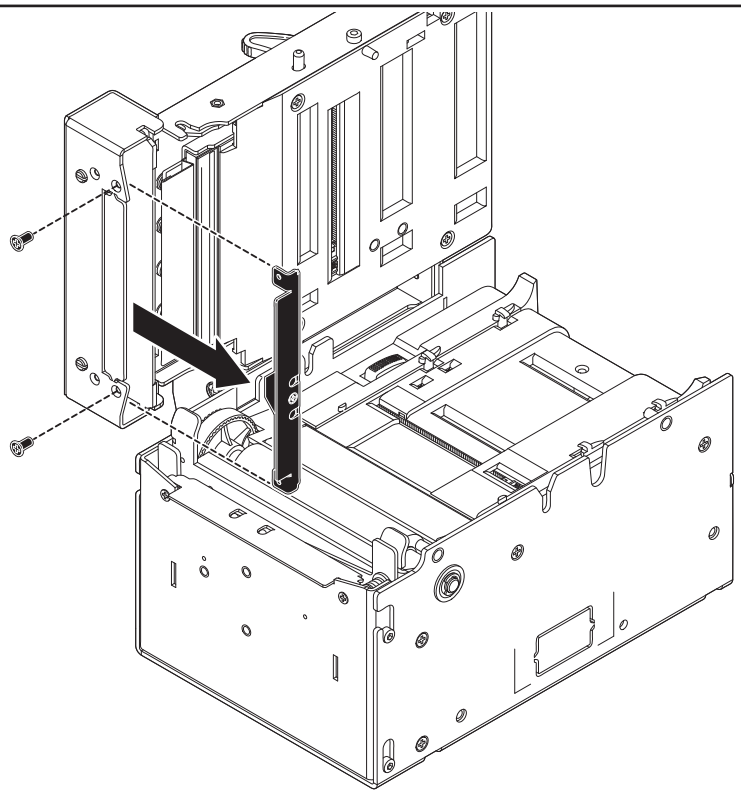
For the assembly procedure, proceed as follows:

1



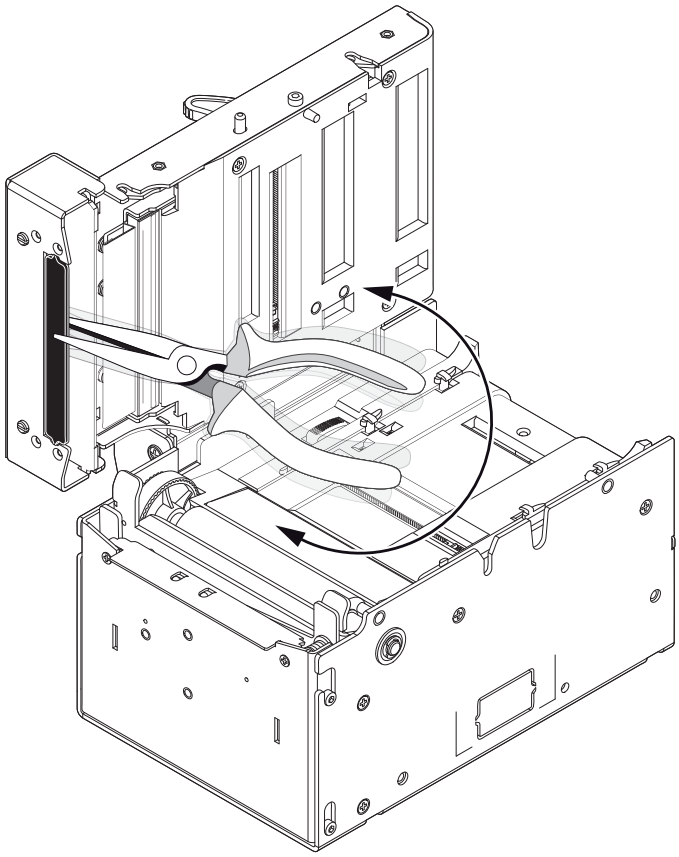
Open the printer cover.

2



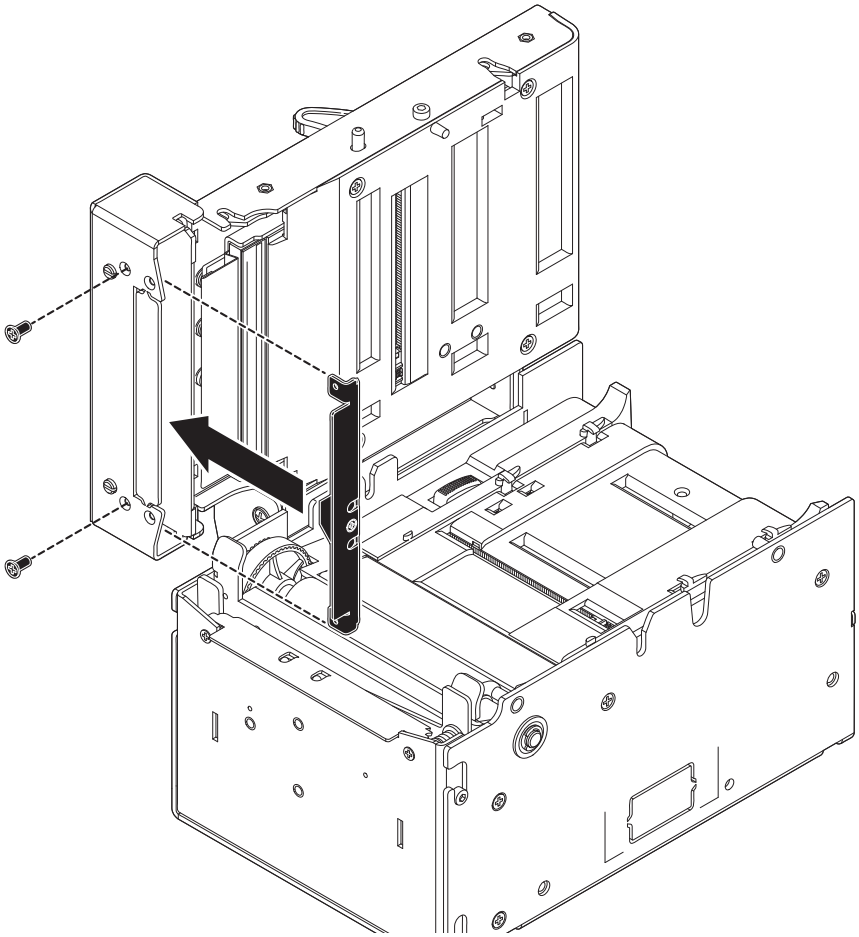
Unscrew the two fixing screws and
take off the upper paper mouth group of the “STANDARD” configuration.

3



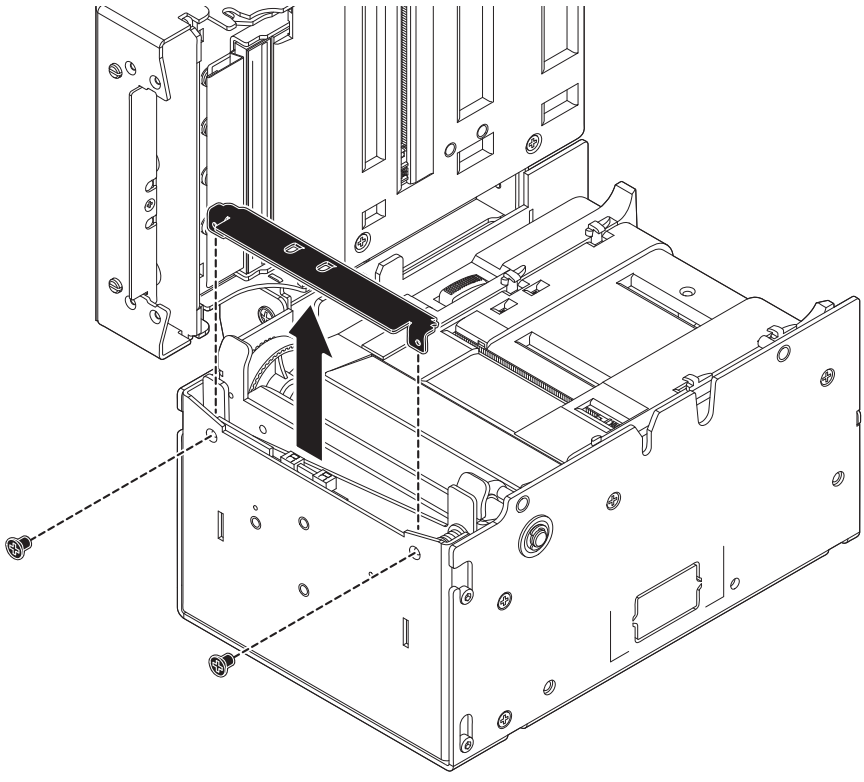
Using a clamp, remove the precut sheet metal on the printer cover.

4



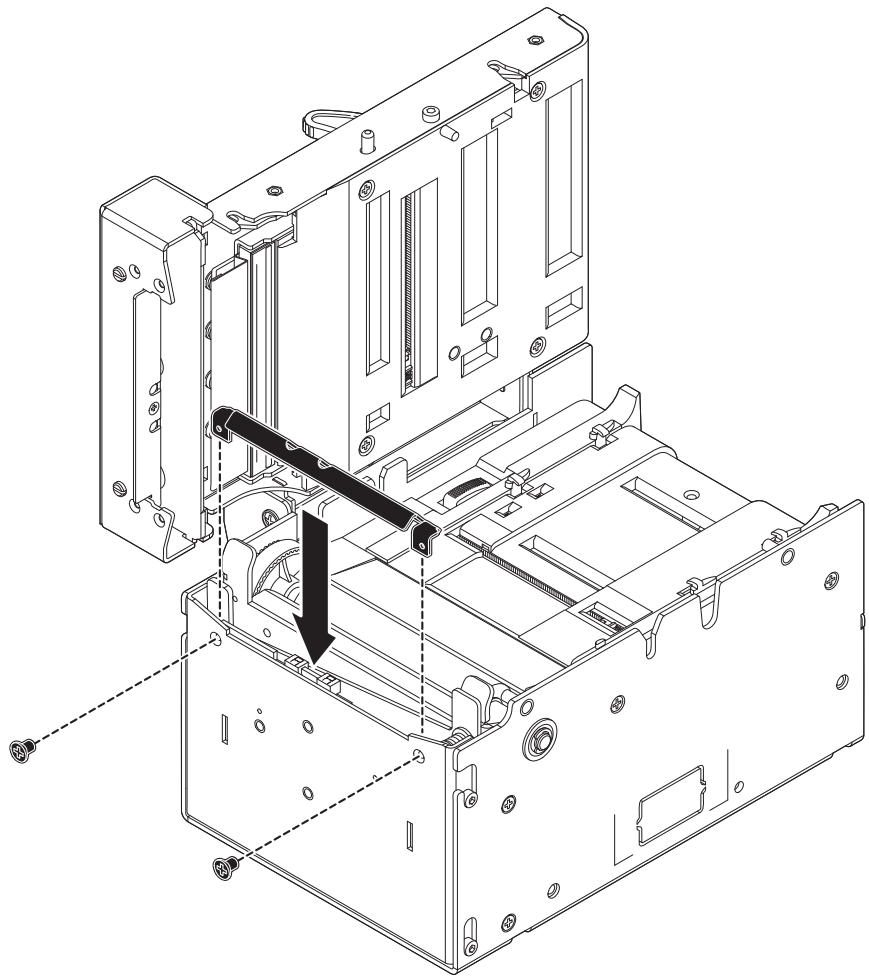
Fix the upper paper mouth group for the “STANDARD” configuration
in the upper holes on the printer cover using the screws previously removed.

5



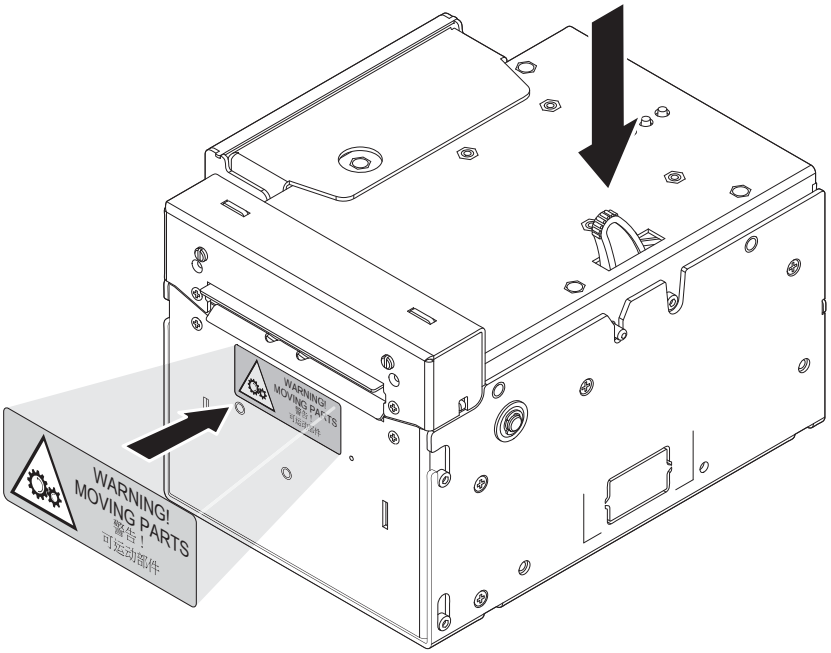
Unscrew the two fixing screws on the cutter cover and
take off the lower paper mouth of the “STANDARD” configuration.

6



Fix the lower paper mouth for the “CUT AND DROP” configuration
by using the screws previously removed.

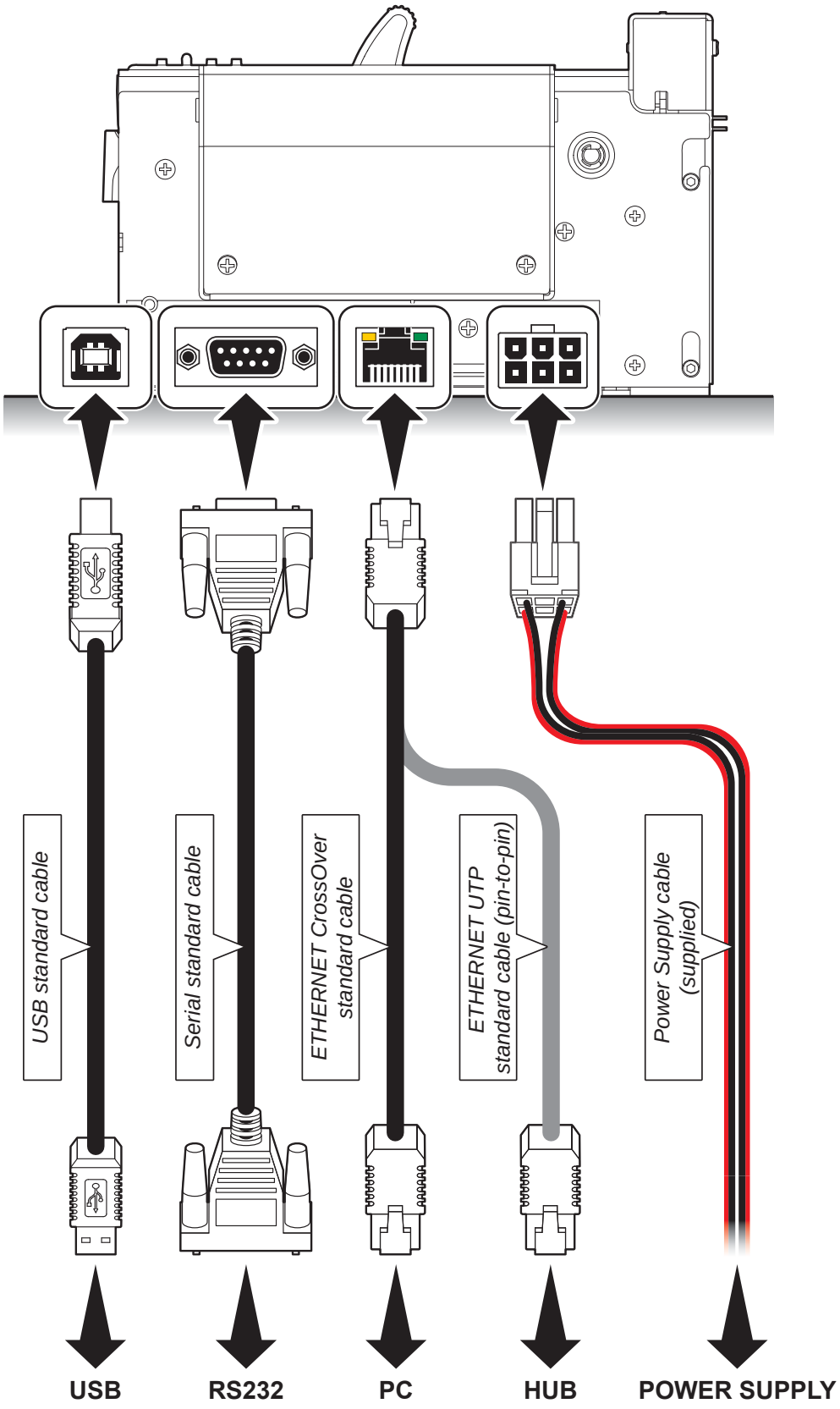
7



Close the printer cover and
paste the label (supplied with the kit) on the cutter cover.

3.4 Connections

The following figures show the possible connections for device.



WARNING:
In some using conditions, we recommend the installation of a ferrite core on the power supply cable.

3.5 Pinout

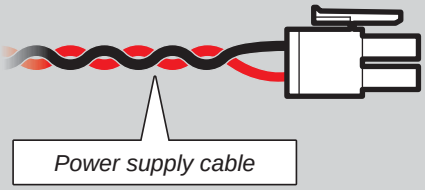
POWER SUPPLY

Male Molex connector vertical (no. 39-30-0060)

J26	1	+24 Vdc
	2	+24 Vdc
	3	+24 Vdc
	4	GND
	5	GND
	6	GND

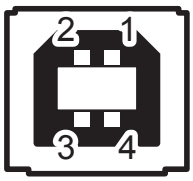
ATTENTION:
Respect power supply polarity.

Note: ***Power supply cable***
The following figure shows the connector pinout of the power supply cable for the device:



Female connector
Molex (n.39-01-2065)

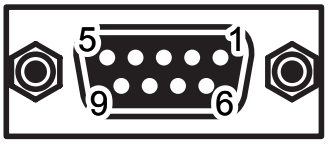
PIN	*Cable color*	*Signal*
1	*Red*	*+24V*
2	*not connected*	*+24V*
3	*Red*	*+24V*
4	*Black*	*GND*
5	*not connected*	*GND*
6	*Black*	*GND*



USB INTERFACE

Female USB type B connector

J13	1	USB-VBUS (out)
	2	PD -0
	3	PD +0
	4	GND



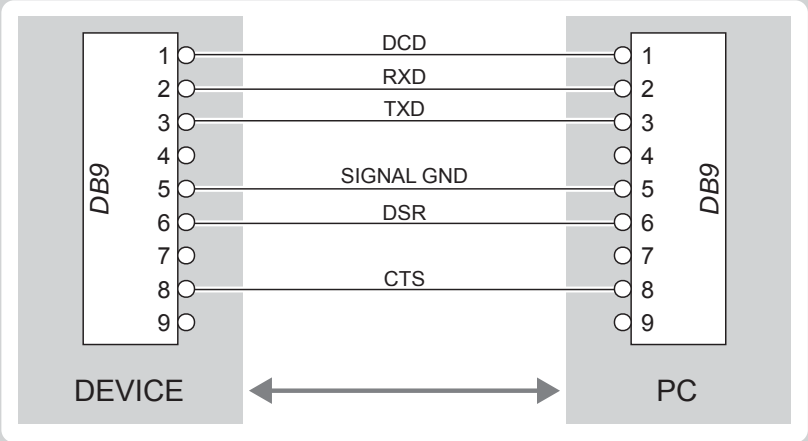
RS232 SERIAL INTERFACE

Female DB9 connector

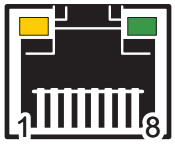
J1	1	DTR	
	2	TX	During transmission, takes the values “0” and “1” depending on data.
	3	RX	During reception, takes the values “0” and “1” depending on data.
	4	n.c.	
	5	GND	
	6	DTR	When “1”, printer is power on.
	7	CTS	
	8	RTS	When “1”, printer is ready to receive data
	9	n.c.	

Note: Given the presence of the RS232 standard, logic value “0” corresponds to a voltage level of between +3Vdc and +15Vdc and logic value “1” corresponds to a voltage level of between -3Vdc and -15Vdc.

Note: ***KPM302-KPM303 > PC connection***
The following pictures shows an example of connections between the printer and a personal computer using a 9 pin female RS232 serial connectors:



Note: When use a serial cable, we recommend the installation of a ferrite core on the power supply cable.



ETHERNET INTERFACE

Female RJ45 connector

J16	1	TPOUT +
	2	TPOUT -
	3	TPIN +
	4	GND
	5	GND
	6	TPIN -
	7	n.c
	8	n.c
	9	+3.3 V
	10	LED-LAN
	11	+3.3 V
	12	LED-LNK
	13	Shield
	14	Shield

Note:
The functionality of two led are specified in the following table:

LED	FUNCTION
LED-LNK	Link (yellow color): the led lights up when a connection is active
LED-LAN	Rx/Tx: (green color): the led lights up when occurs a data reception or transmission

- To directly connect the printer to a Personal Computer, use a Cross-Over Ethernet cable.
- To connect the printer to a hub device, use an UTP Ethernet cable (Pin to Pin).

Note: The pinout shown in table represents the input signals to component J15 before the isolation voltage transformer (through-hole pin).

3.6 Driver

The drivers are available for the following operating system:

OPERATING SYSTEM	DRIVER	INSTALLATION PROCEDURE
Windows	Windows XP Windows VISTA (32/64bit) Windows 7 (32/64bit) OPOS *(only for KPM302)*	From the START menu, press Enter and key-in the path where the SW was saved on your PC, then click OK. Follow the instructions that appear on the screen to install the driver.
Linux		Follow the instruction get back on the README.TXT file you can find it in the software package downloaded in advance.
Windows / Linux	JavaPOS *(only for KPM302)*	Extract the zipped folder to the destination path desired.

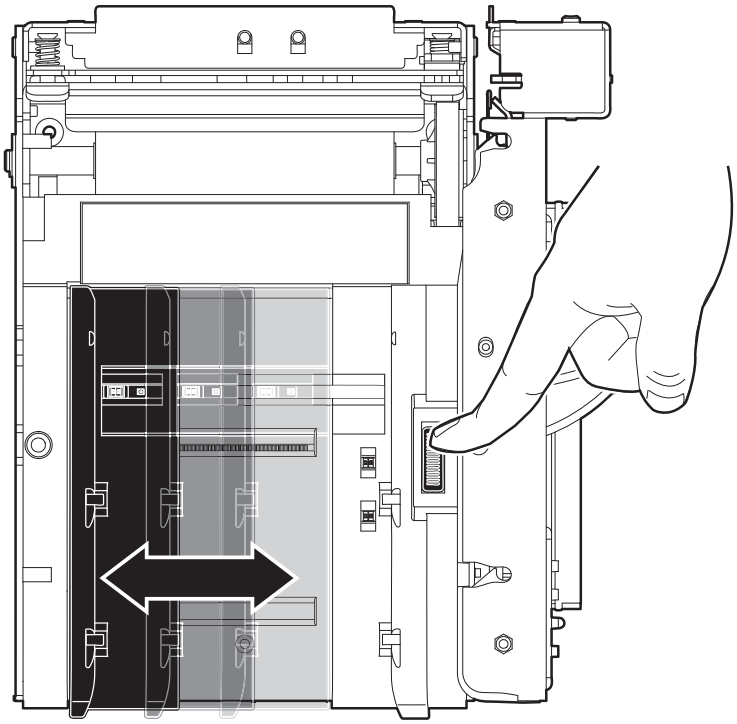
All drivers can be found in the DOWNLOAD section of the web site www.custom.biz.

4 OPERATION

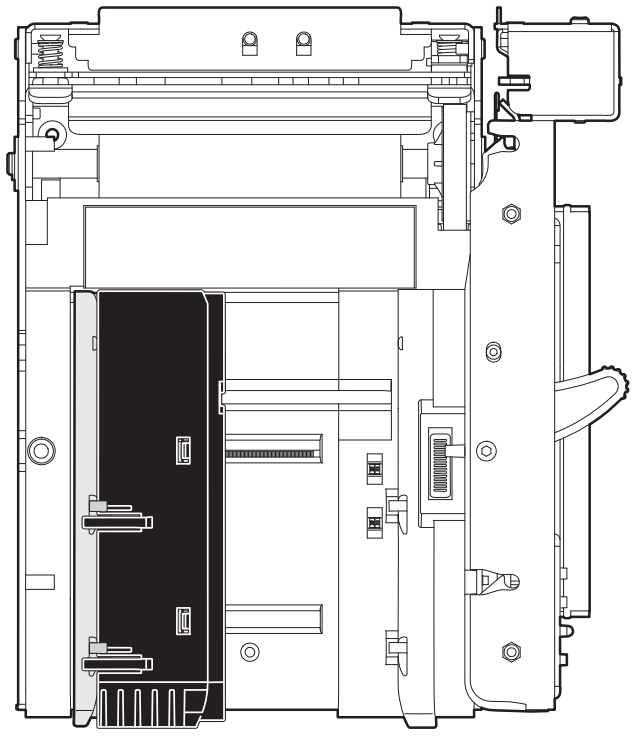
4.1 Adjusting paper width

KPM302 (models without triple feeder), KPM303

Paper width may be adjusted from 40mm to 82,5mm by pressing the unlocking button and moving the mobile paper guide as shown in the following figure.



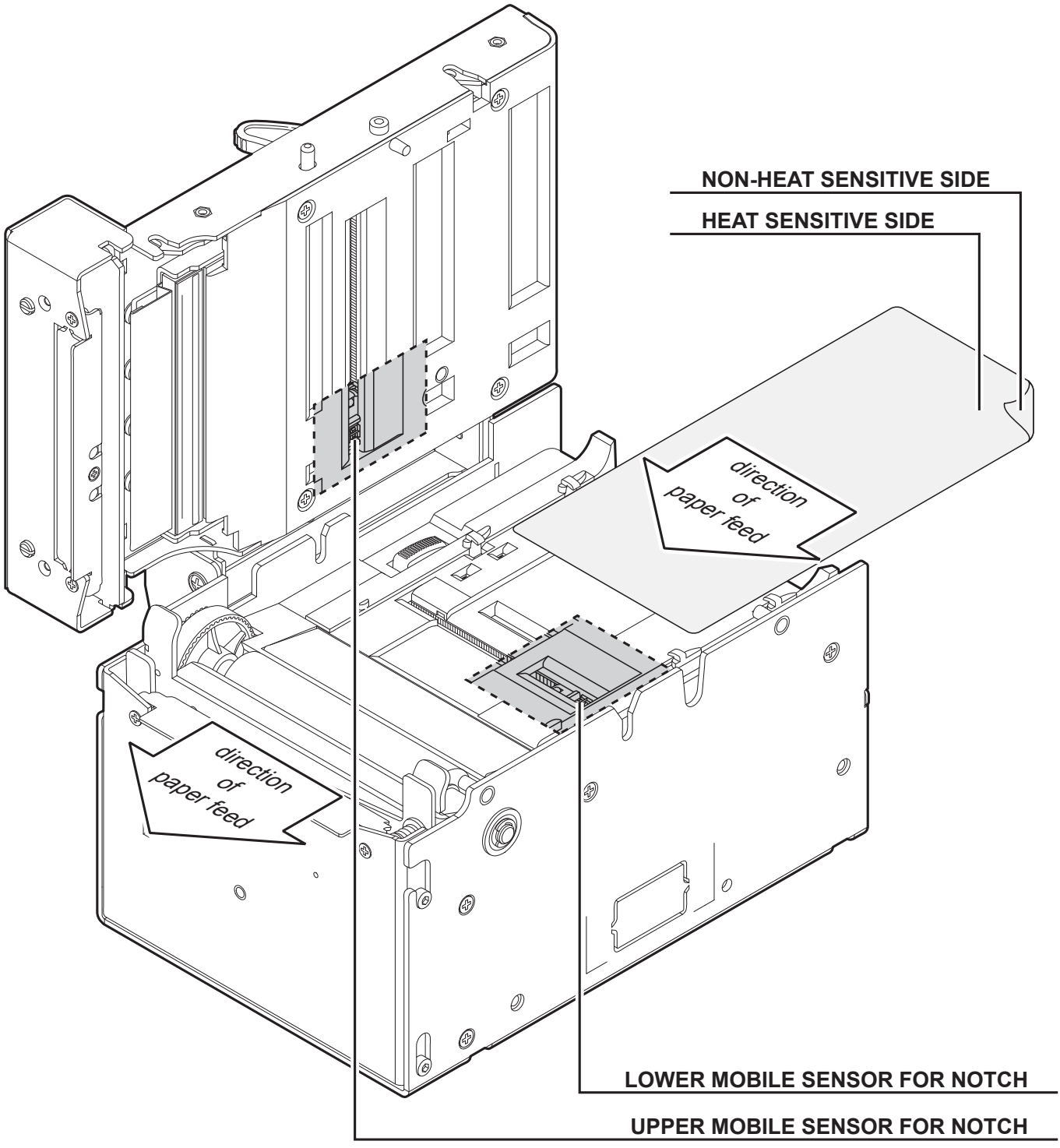
To manage paper width from 40mm to 20 mm, apply the spacer on the mobile paper guide (see following figure), then adjust the paper width.



4.2 Adjusting notch sensors position

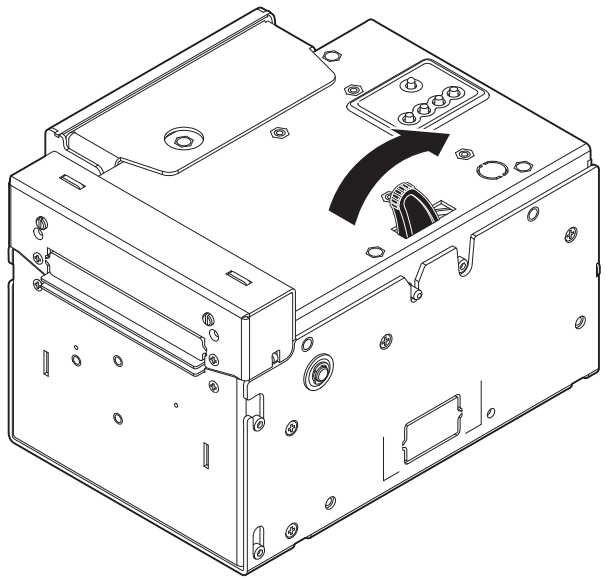
Printer is provided with two mobile sensors for the notch detection both on the non-heat sensitive side (lower sensor) and on the heat-sensitive side of paper (upper sensor) as shown in the following figure.
The “Notch/B.Mark Position” parameter of printer configuration (see par.5.4) sets the position for the notch as follows:

- Notch positioned on the non-heat sensitive side : “Notch/B.Mark Position” = “Bottom”
- Notch positioned on the heat-sensitive side : “Notch/B.Mark Position” = “Top”


NON-HEAT SENSITIVE SIDE
HEAT SENSITIVE SIDE
direction of paper feed
direction of paper feed
LOWER MOBILE SENSOR FOR NOTCH
UPPER MOBILE SENSOR FOR NOTCH

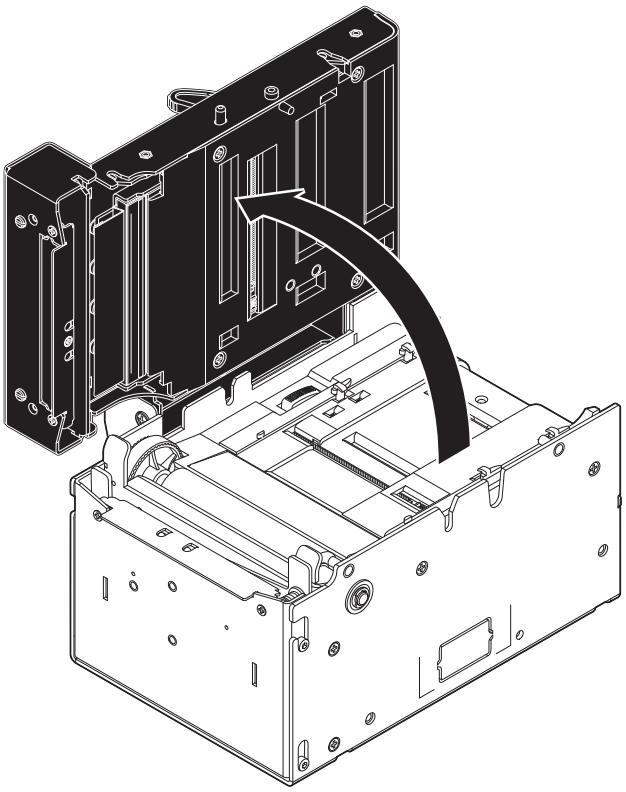
To adjust the mobile sensor position according to the notch position on paper, proceed as follows:

1

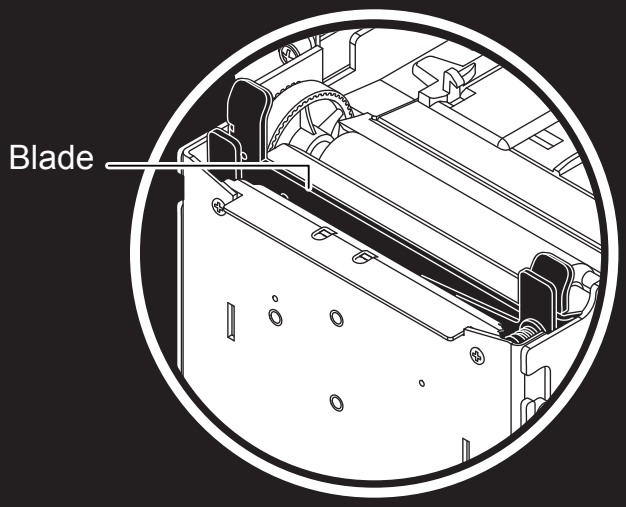


Lift the release lever.

2

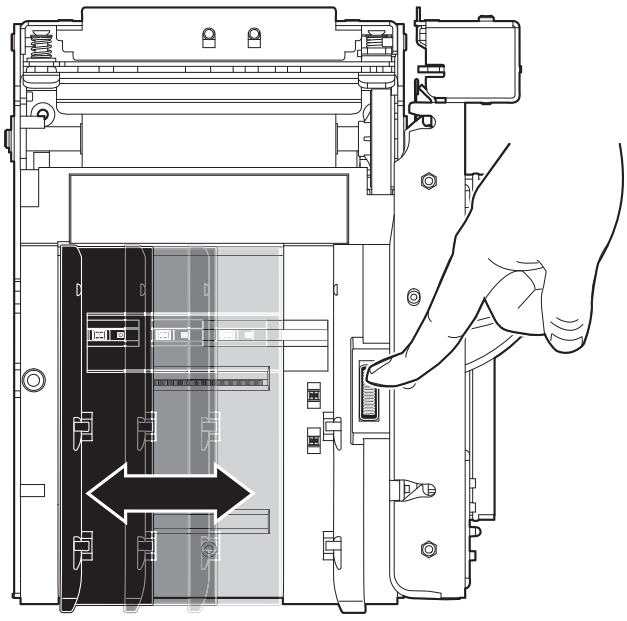


Open the printer cover.



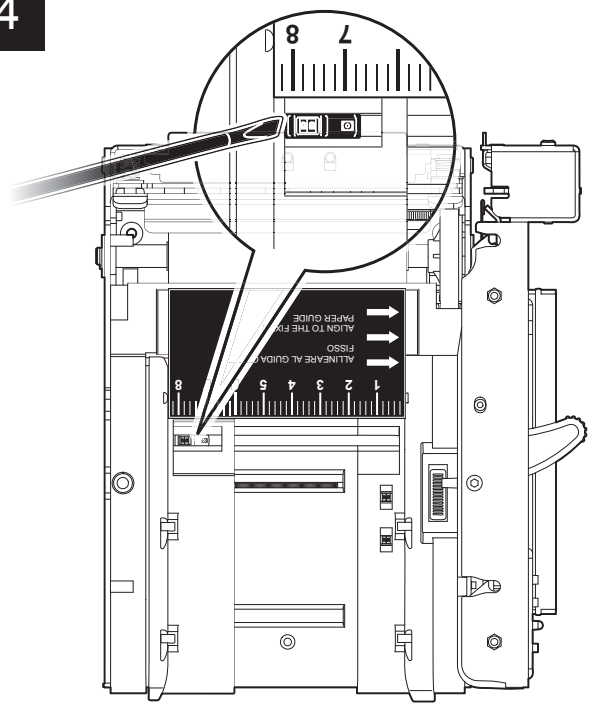
ATTENTION:
Pay attention to not work near the cutter blade with the finger (see the figure), because the cutter blade exposes its sharp part.

3 ***for models without triple feeder***



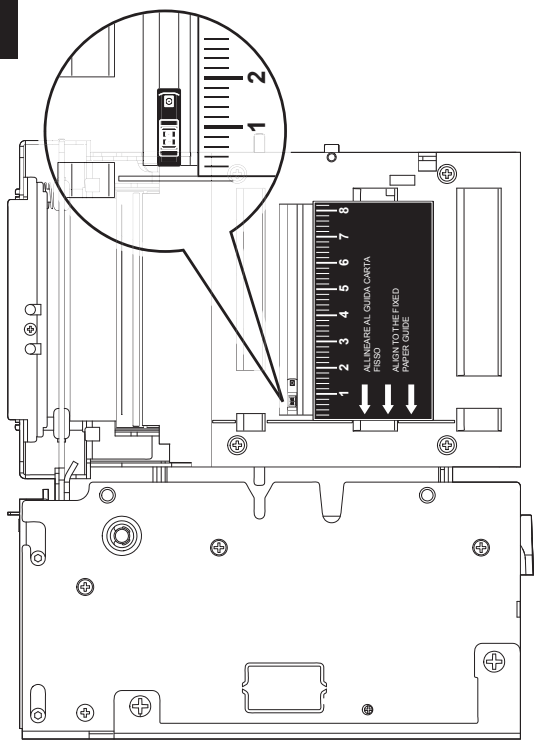
Adjust the paper width as described in par.4.1.

4

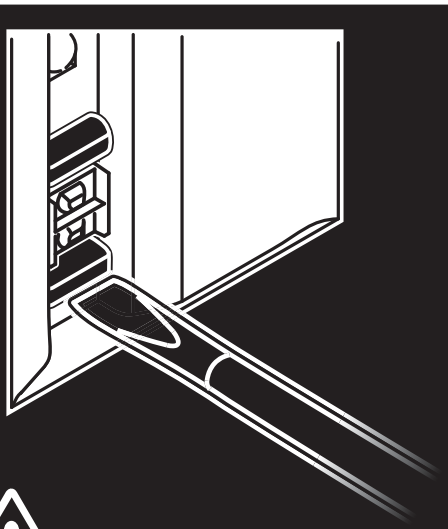


Place the ruled supplied against the fixed paper guide on the lower flat.
Move the lower sensor to the desired position using a small screwdriver or a pointed object.

5

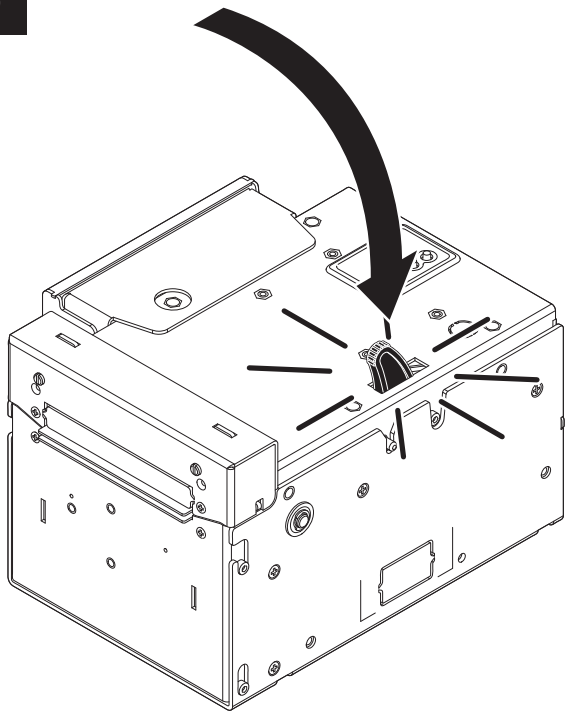


Place the ruled supplied against the appropriate fin on the upper flat.
Move the upper sensor to the desired position using a small screwdriver or a pointed object.



ATTENTION:
To avoid damaging the sensors, use the plastic tabs as foothold for the screwdriver to push the sensor in the desired position.

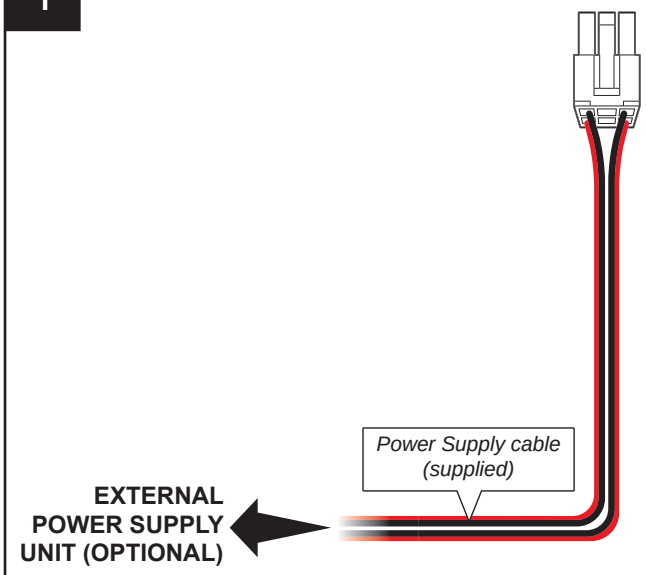
6



Close the printer cover.

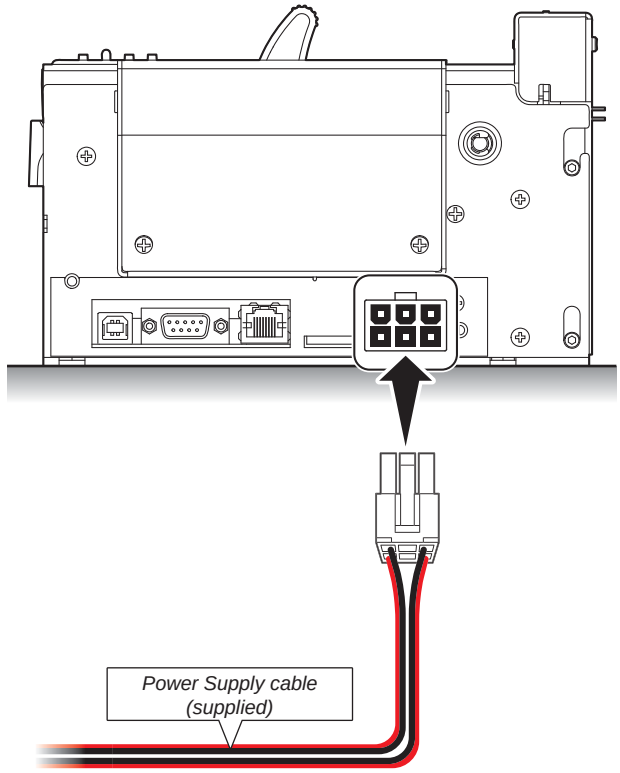
4.3 Turning on the device

1



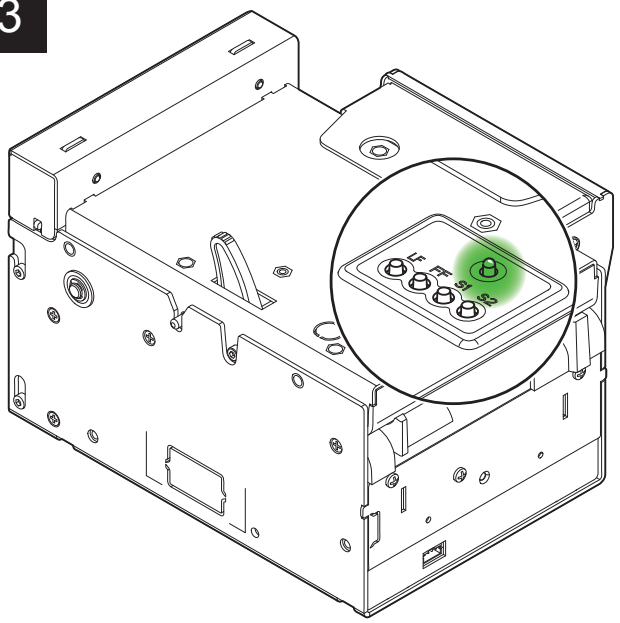
Connect the power supply cable (supplied)
to an external power supply unit (optional).

2



Connect the power supply cable
to the connector of the printer (see par.3.4).

3



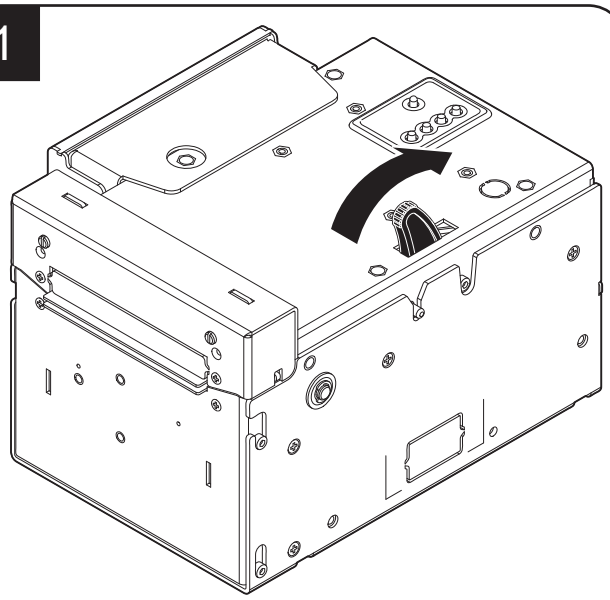
The green led turns on
and the printer is ready.

4.4 Paper insertion

Each time you change the paper, check inside the printer. To change the paper proceed as follows:

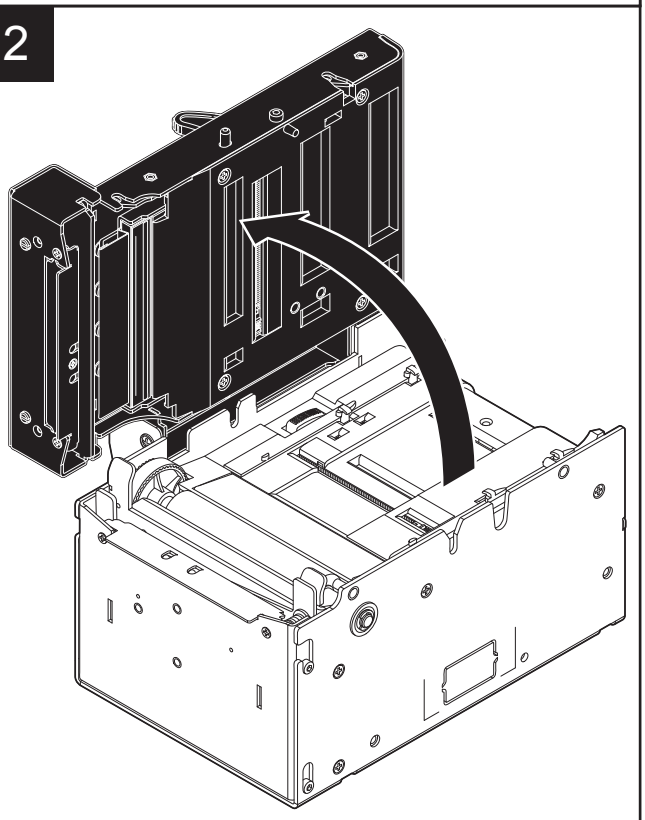
KPM302 (models without triple feeder), KPM303

1

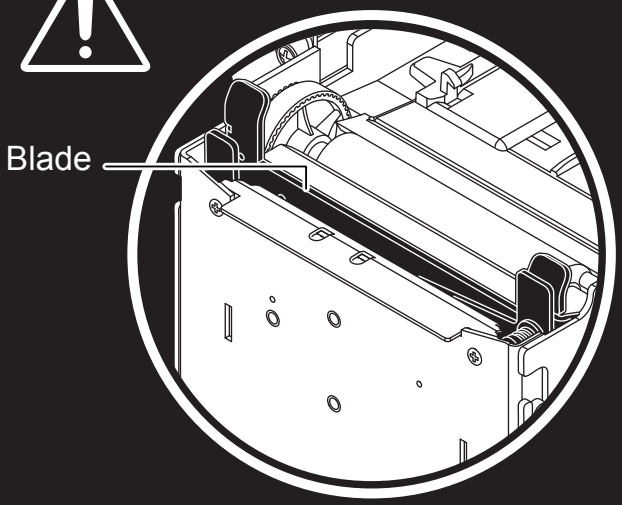


Lift the release lever.

2

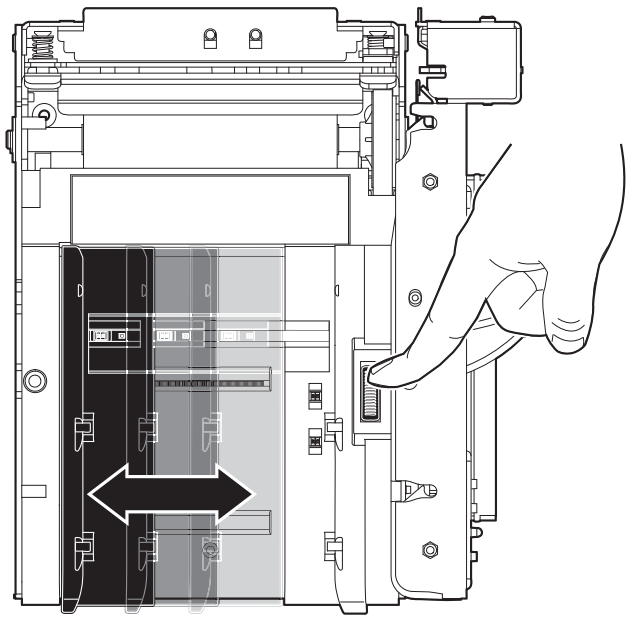


Open the printer cover.



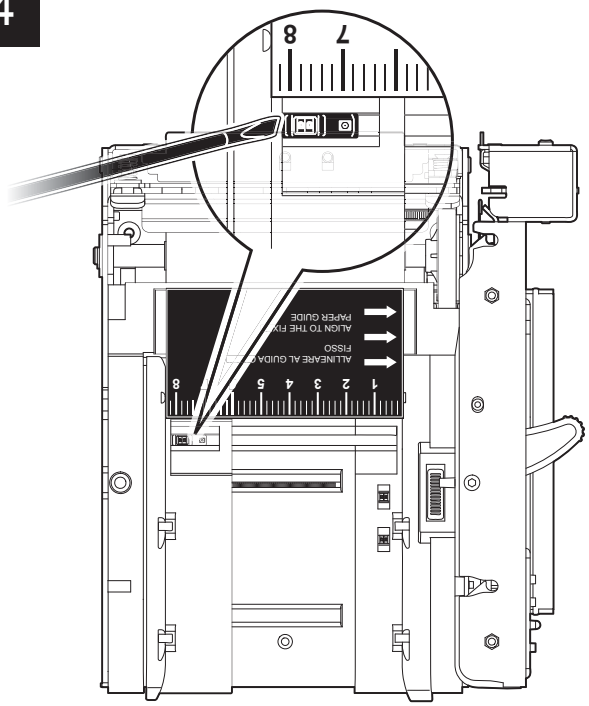
ATTENTION:
For models with cutter, pay attention to not work near the cutter blade with the finger (see the figure), because the cutter blade exposes its sharp part.

3



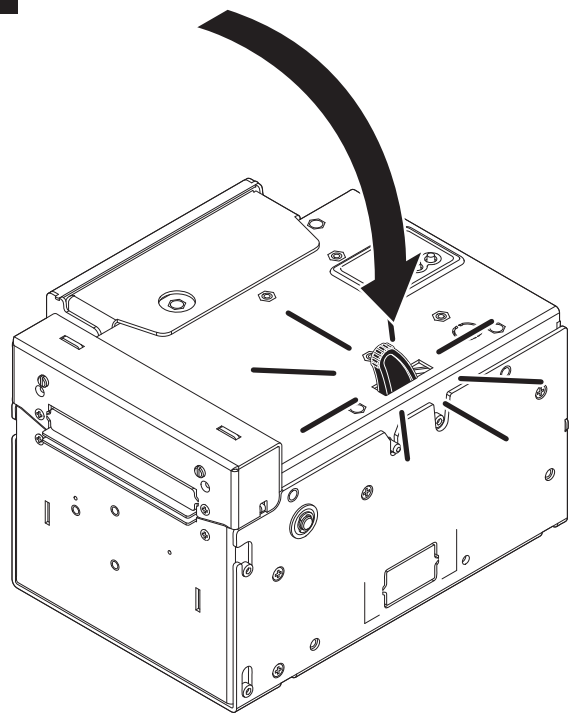
Adjust the paper width as described in par.4.1.

4



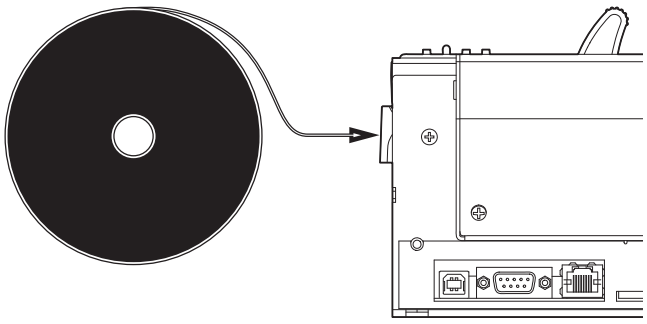
Adjust the notch sensors position
as described in par.4.2.

5



Close the printer cover.

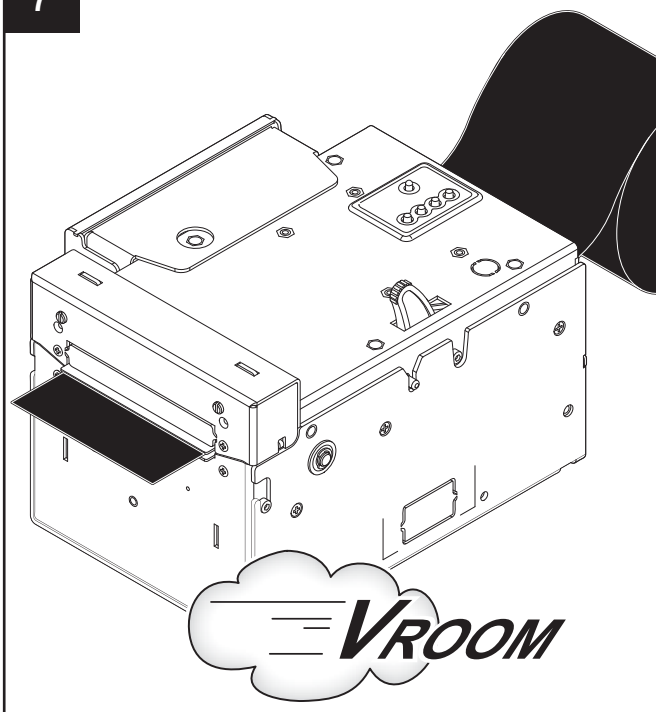
6



ATTENTION:
Make sure the cut is straight.

Insert the paper edge into the feed slot
(place the paper roll so that it unrolls correctly).

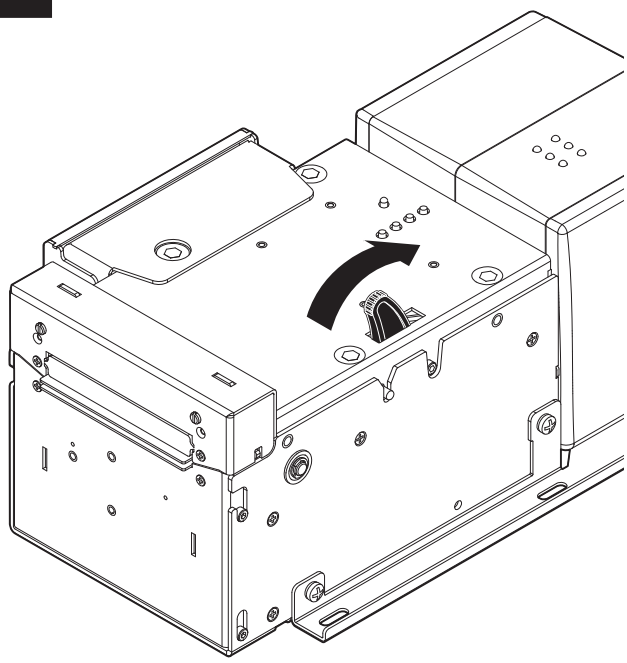
7



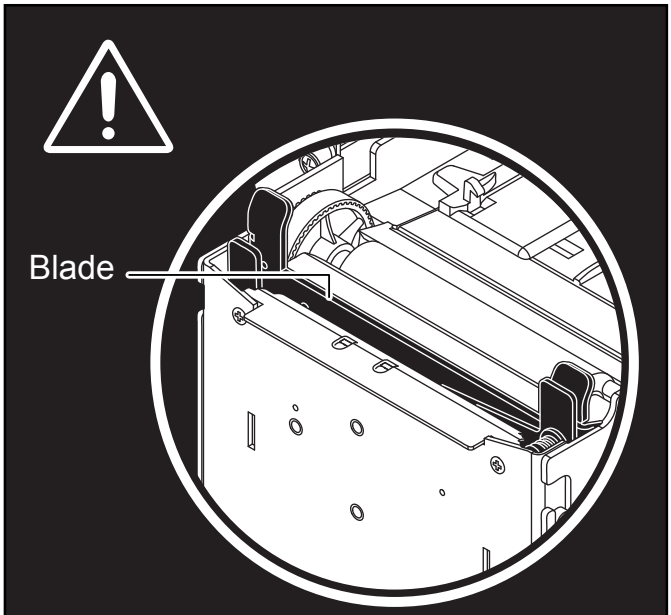
Wait for the paper to load automatically.

KPM302 (models with triple feeder), KPM303

1

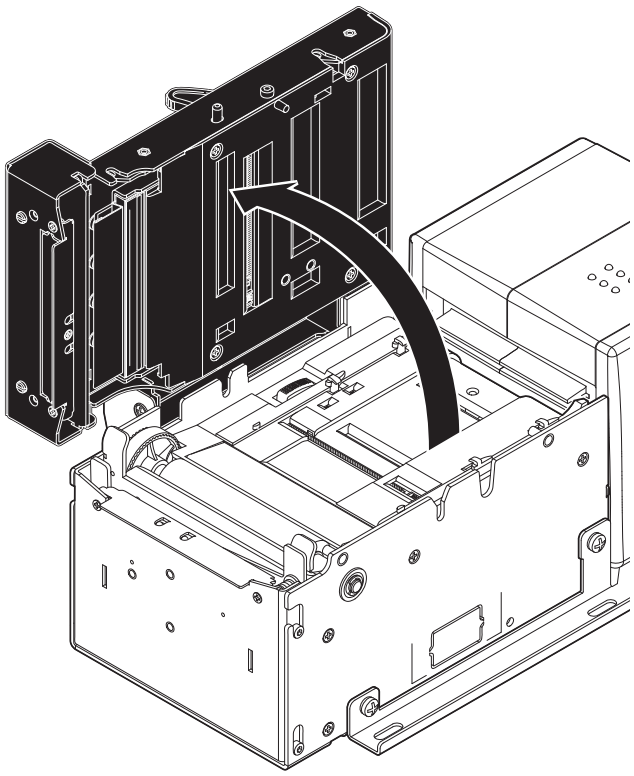


Lift the release lever.



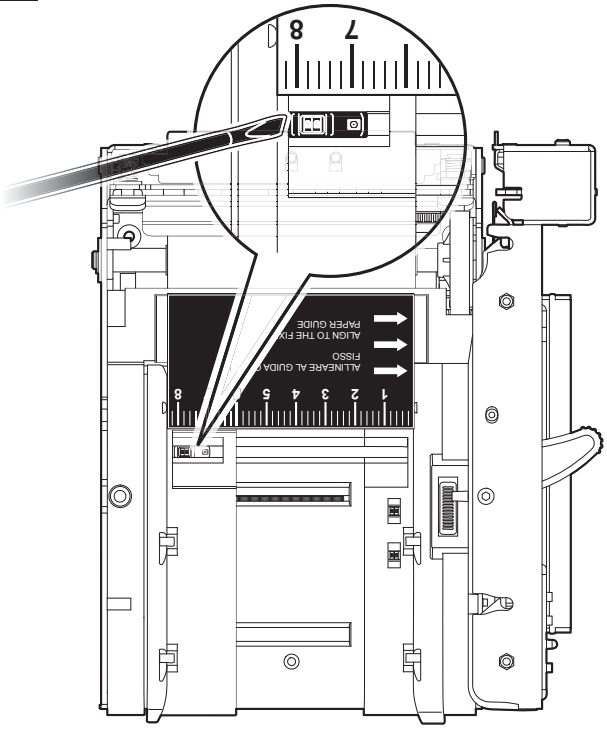
ATTENTION:
Pay attention to not work near the cutter blade with the finger (see the figure), because the cutter blade exposes its sharp part.

2



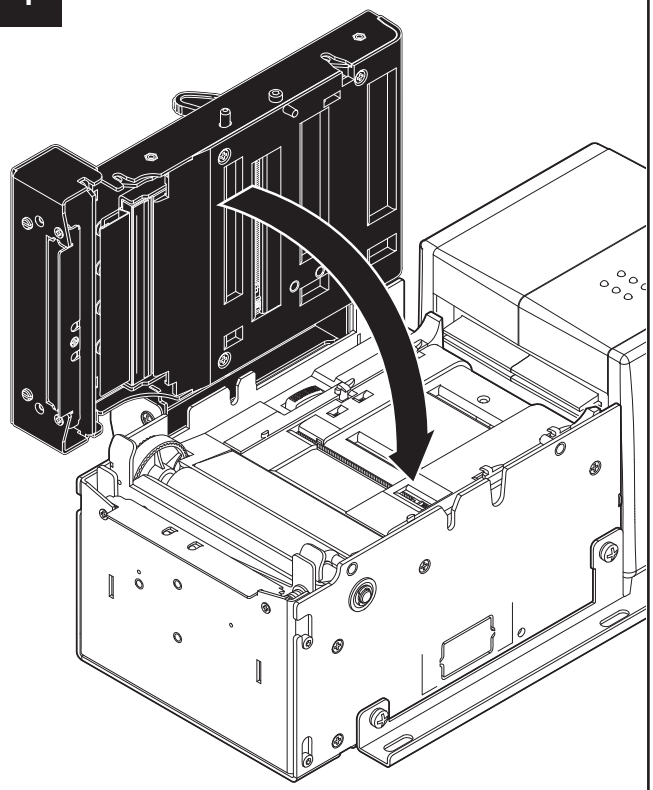
Open the printer cover.

3



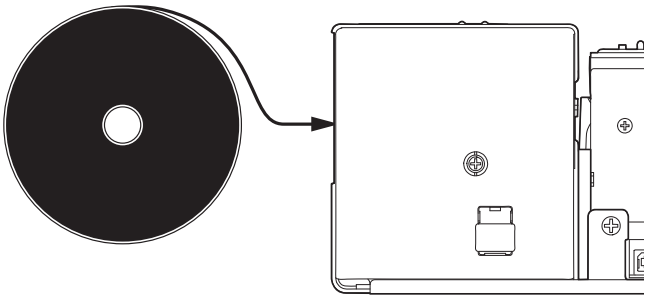
Adjust the position of the notch sensors as described in par.4.2.

4



Close the printer cover.

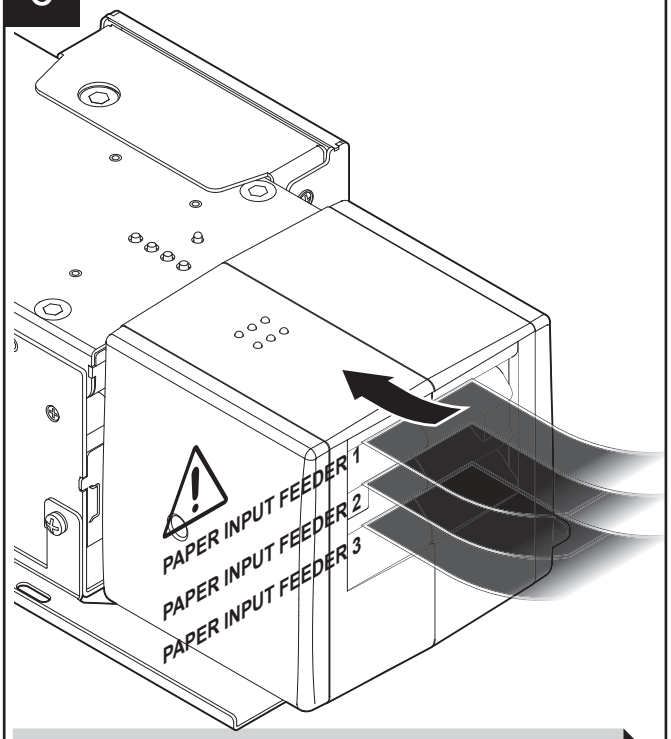
5



ATTENTION:
Make sure the cut is straight.

Place the paper roll, so that it unrolls correctly.

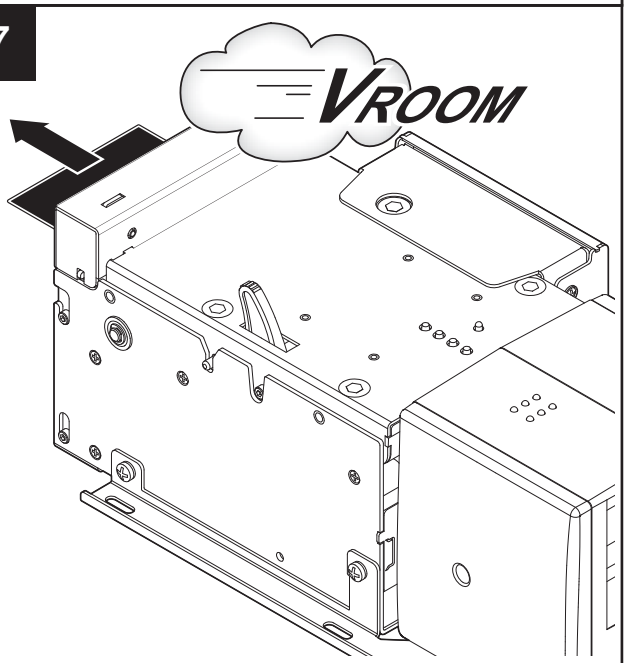
6



ATTENTION:
In case of ticket with TAG RFID, load the ticket only into the central feeder (paper input feeder 2).

Insert the end of the paper roll in the paper load opening on the triple feeder unit.

7



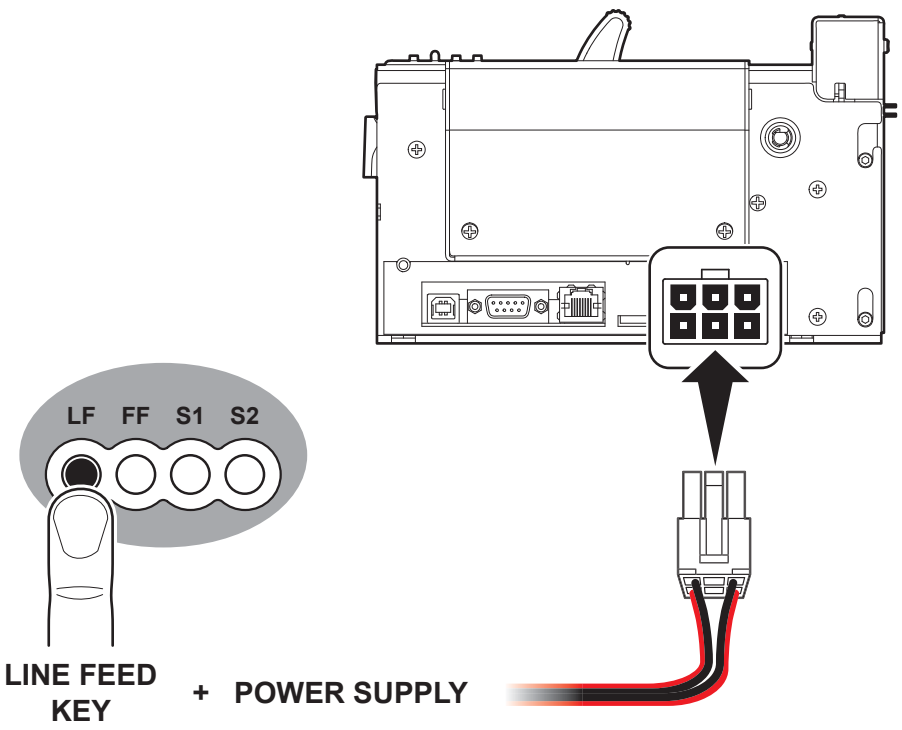
Wait for the paper to load automatically.

5 CONFIGURATION

5.1 Configuration mode

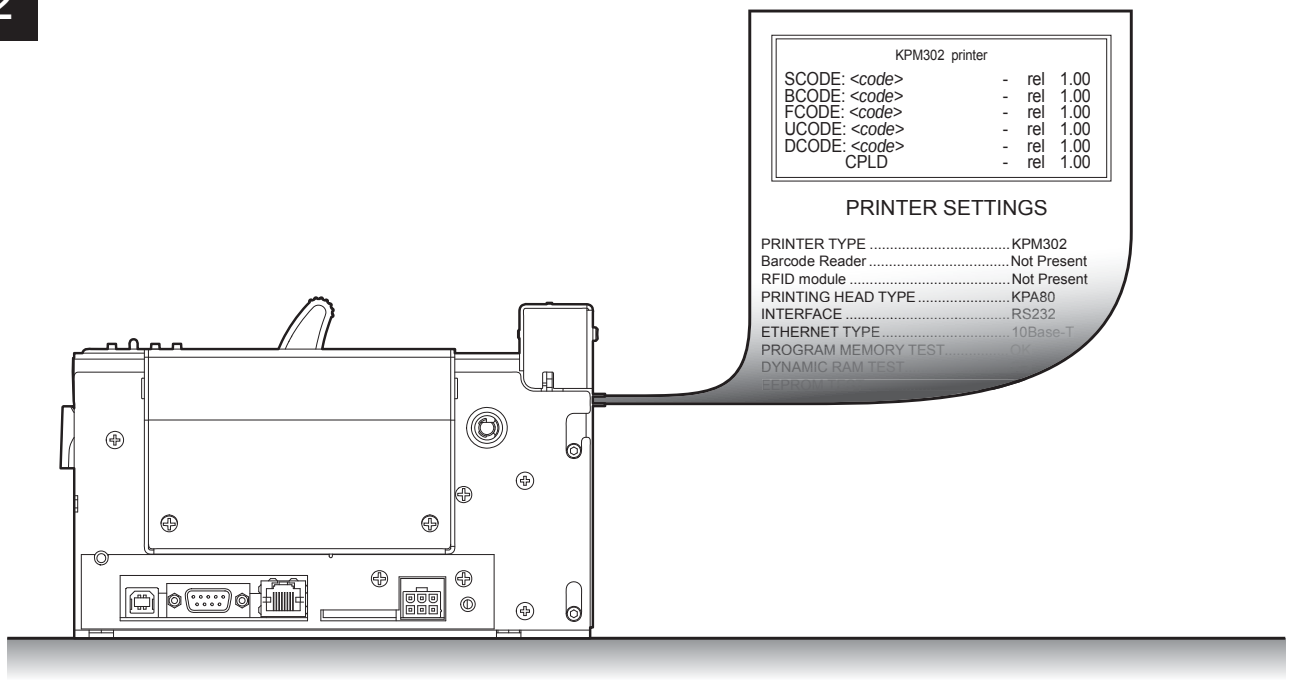
To enter the configuration mode and print a SETUP report with the operating parameters of the printer, proceed as follows.

1



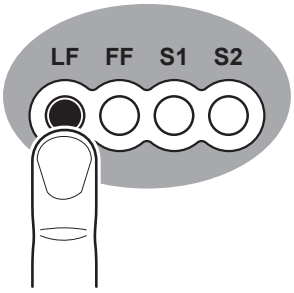
During power-up, hold down the LINE FEED key while the wiring is plugged into the power supply connector of the printer.

2

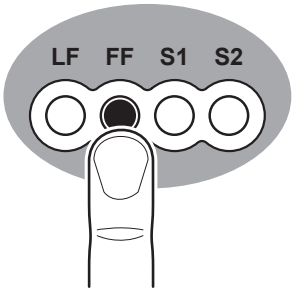


The device prints a SETUP report.

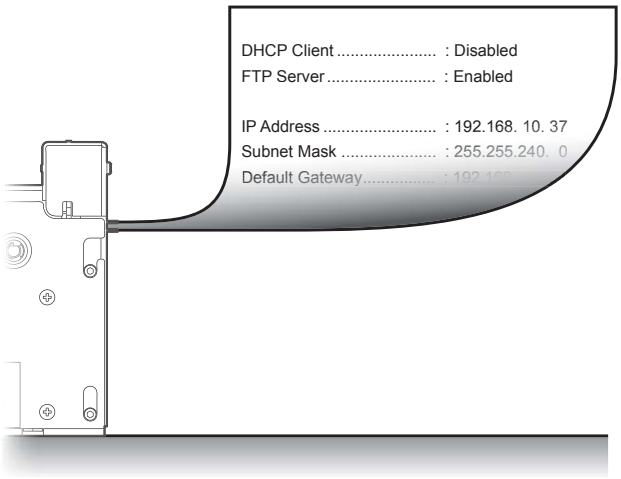
3



LINE FEED KEY

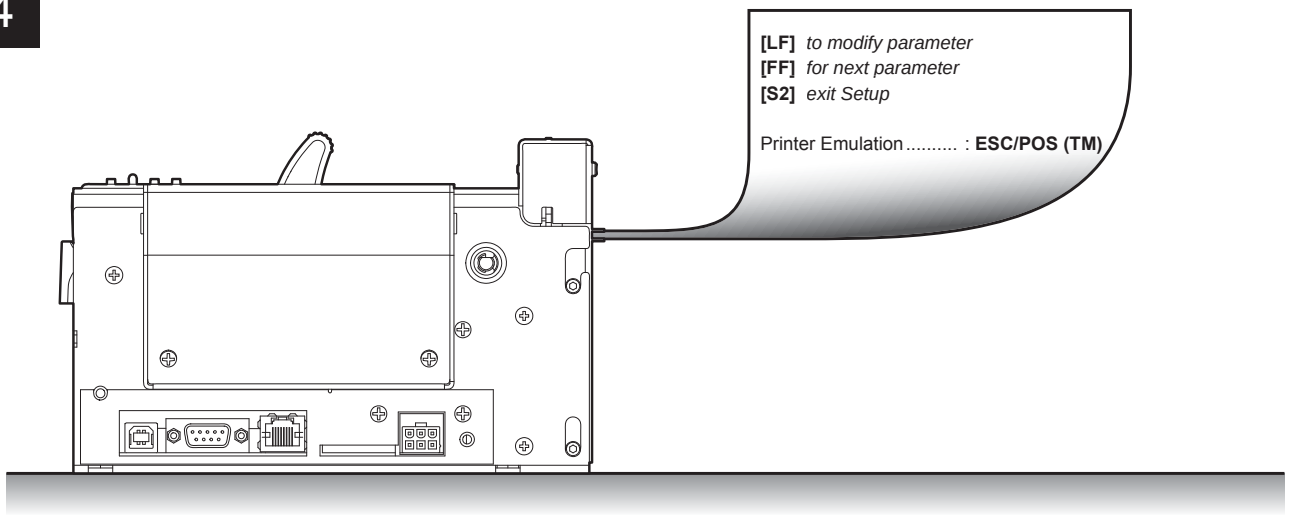


FORM FEED KEY



Press the LINE FEED key to enter the configuration mode or
press the FORM FEED key to print the SETUP report with the Ethernet parameters.

4



Proceed with the configuration by using the keys according the functions printed on paper.
For description and values of setup parameters, see the following paragraphs.

NOTE:
During power-up, if the LINE FEED key is held down, the printer enters the auto-test routine and prints out the setup report. The printer will remain in standby in Hexadecimal dump mode (see following paragraphs) until another key is pressed or characters are received through the printer communication port.
When the FORM FEED key is pressed, the printer enters parameter configuration.
When the LINE FEED key is pressed, the printer exits setup and terminates the Hexadecimal dump function.

5.2 Setup report

The following figures show the setup reports of the printer. The shown values for parameters are sample values; for the list and the description of printer and Ethernet parameters see the following paragraphs.

PRINTER NAME and FIRMWARE RELEASE

PRINTER STATUS
(see paragraph 5.3)

PRINTER PARAMETERS
(see paragraph 5.4)

KEYS FUNCTIONS
(see paragraphs 2.5 and 2.6)

KPM302 printer

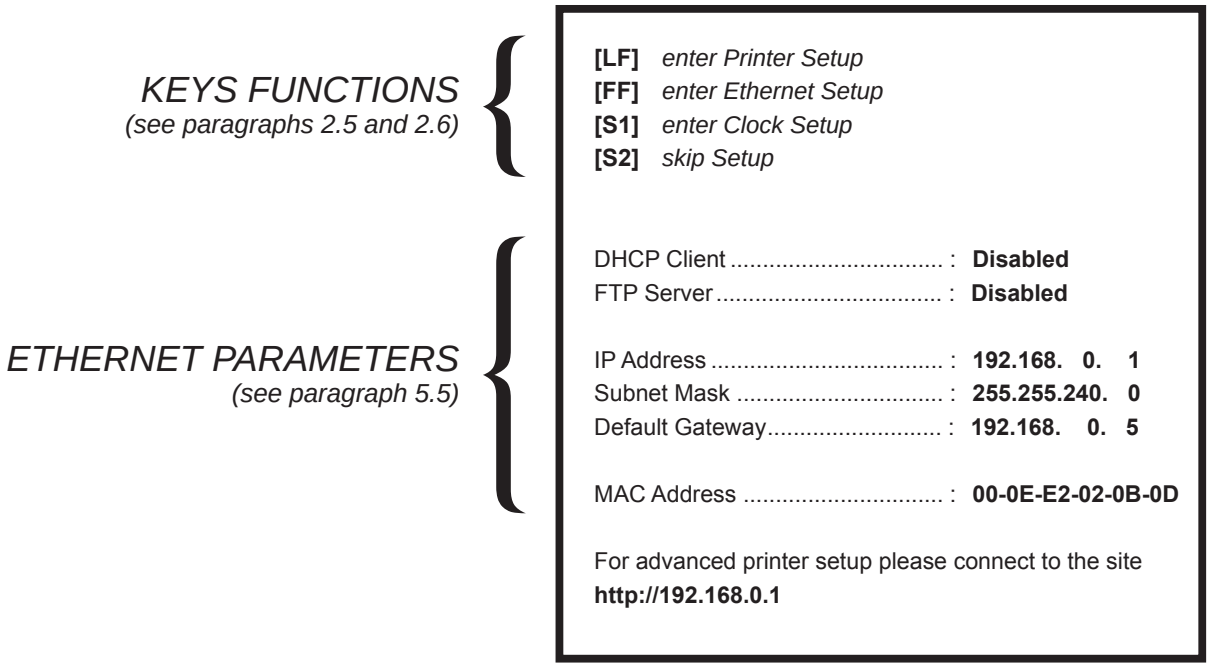
SCODE: <*code*> - rel 1.00
BCODE: <*code*> - rel 1.00
FCODE: <*code*> - rel 1.00
UCODE: <*code*> - rel 1.00
DCODE: <*code*> - rel 1.00
CPLD - rel 1.00

PRINTER SETTINGS

PRINTER TYPE KPM302
Barcode Reader ..... Not Present
RFID module ..... Not Present
PRINTING HEAD TYPE KPA80
INTERFACE RS232
ETHERNET TYPE 10Base-T
PROGRAM MEMORY TEST ..... OK
DYNAMIC RAM TEST ..... OK
EEPROM TEST ..... OK
CUTTER TEST ..... OK
PRINTER HEAD Rav 561
HEAD VOLTAGE [V] = 24.55
HEAD TEMPERATURE [°C] = 26
POWER ON COUNTER = 3
PAPER PRINTED [cm] = 10
CUT COUNTER = 35

Printer Emulation ..... : **ESC/POS (TM)**
RS232 Baud Rate ..... : **115200 bps**
RS232 Data Length ..... : **8 bits/chr**
RS232 Parity ..... : **None**
RS232 Handshaking ..... : **Xon/Xoff**
Busy Condition ..... : **RxFull**
USB Mass Storage ..... : **Enabled**
USB Address Number ..... : **0**
Print Mode ..... : **Normal**
Autofeed ..... : **CR disabled**
Chars / inch ..... : **A=15 B=20cpi**
Speed / Quality ..... : **Normal**
Peper Width ..... : **82 mm**
Paper Threshold ..... : **60%**
Notch/B.Mark Position ..... : **Bottom**
Notch/B.Mark Threshold ..... : **40%**
Notch Distance [mm] ..... : **+00.0**
Ticket Locking ..... : **Disabled**
PaperEnd Buffer Clear ..... : **Disabled**
Ticket Management ..... : **Disabled**
Paper End Management ..... : **Print All**
RFID Module Baud Rate ..... : **38400**
Print Density ..... : **0%**

[LF] *enter Printer Setup*
[FF] *enter Ethernet Setup*
[S1] *enter Clock Setup*
[S2] *skip Setup*


KEYS FUNCTIONS
(see paragraphs 2.5 and 2.6)
[LF] enter Printer Setup
[FF] enter Ethernet Setup
[S1] enter Clock Setup
[S2] skip Setup
ETHERNET PARAMETERS
(see paragraph 5.5)
DHCP Client ..... : Disabled
FTP Server ..... : Disabled
IP Address ..... : 192.168. 0. 1
Subnet Mask ..... : 255.255.240. 0
Default Gateway..... : 192.168. 0. 5
MAC Address ..... : 00-0E-E2-02-0B-0D
For advanced printer setup please connect to the site
http://192.168.0.1

5.3 Printer status

Printer operating status is indicated in the configuration print-out in which, next to the name of the components displayed, the following information is given:

PRINTER TYPE	*is given the device model.*
Barcode Reader	*is given the presence of the barcode reader.*
RFID module	*is given the presence of the RFID reader/writer.*
PRINTING HEAD TYPE	*is given the printing head model.*
INTERFACE	*is given the interface present.*
ETHERNET TYPE	*is given the connection type for the Ethernet interface.*
PROGRAM MEMORY TEST	*the message OK appears if functioning and NOT OK if faulty.*
DYNAMIC RAM TEST	*the message OK appears if functioning and NOT OK if faulty.*
EEPROM TEST	*the message OK appears if functioning and NOT OK if faulty.*
CUTTER TEST	*the message OK appears if functioning and NOT OK if faulty.*
PRINTER HEAD Rav	*is given the resistance of a dot head.*
HEAD VOLTAGE	*is given the voltage of the head.*
HEAD TEMPERATURE	*is given the temperature of the head.*
POWER ON COUNTER	*is given the number of power-ups made.*
PAPER PRINTED	*is given the number of centimeters of paper printed.*
CUT COUNTER	*is given the number of cuts made.*

5.4 Printer parameters

This printer allows the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the printer has been turned off and they are stored in non-volatile memory.

PRINTER EMULATION	*Available emulations for the device:* *SVELTA [D]* *ESC/POS™*
RS232 BAUD RATE	*Communication speed of the serial interface:* *115200 [D] 38400 9600 2400* *57600 19200 4800 1200* **NOTE:** Parameter valid only with serial interface.
RS232 DATA LENGTH	*Number of bit used for characters encoding:* *7 bits/car* *8 bits/car [D]* **NOTE:** Parameter valid only with serial interface.
RS232 PARITY	*Bit for the parity control of the serial interface:* *None [D] = parity bit omitted* *Even = even value for parity bit* *Odd = odd value for parity bit* **NOTE:** Parameter valid only with serial interface.
RS232 HANDSHAKING	*Handshaking:* *XON/XOFF [D] = software handshaking* *Hardware = hardware handshaking (CTS/RTS)* **NOTE:** Parameter valid only with serial interface.
BUSY CONDITION	*Activation mode for Busy signal:* *OffLine/ RXFull = Busy signal is activated when the printer is both in OffLine status and the buffer is full* *RXFull [D] = Busy signal is activated when the buffer is full* **NOTE:** Parameter valid only with serial interface.
USB MASS STORAGE	*Sharing mode from Mass Storage:* *Disabled [D] = sharing mode disabled* *Enabled = sharing mode enabled*
USB ADDRESS NUMBER	*Numerical address code for the univocal identification of the USB device (in case of more than a USB device connected with the same PC):* *0 [D] 4 8* *1 5 9* *2 6* *3 7*

PRINT MODE

Printing mode:

Normal [D] = enables printing in normal writing way
Reverse = enables printing rotated 180 degrees

AUTOFEED

Setting of the Carriage Return character:

CR disabled [D] =Carriage Return disabled
CR enabled = Carriage Return enabled

NOTE: The parameter is printed only with ESC/POS™ emulation enabled.

CHARS / INCH

Font selection:

KPM302 models	*KPM303 models*
A = 11 cpi, B = 15 cpi [D]	*A = 16 cpi, B = 23 cpi*
A = 15 cpi, B = 20 cpi	*A = 23 cpi, B = 30 cpi*

NOTE: CPI = Characters Per Inch
NOTE: The parameter is printed only with ESC/POS™ emulation enabled.

SPEED / QUALITY

Setting of printing speed and printing quality:

Normal
High Quality
High Speed [D]

PRINT WIDTH

Width of printing area:

20 mm	*34 mm*	*48 mm*	*62 mm*	*76 mm*
22 mm	*36 mm*	*50 mm*	*64 mm*	*78 mm*
24 mm	*38 mm*	*52 mm*	*66 mm [D]*	*80 mm*
26 mm	*40 mm*	*54 mm*	*68 mm*	*82 mm*
28 mm	*42 mm*	*56 mm*	*70 mm*	
30 mm	*44 mm*	*58 mm*	*72 mm*	
32 mm	*46 mm*	*60 mm*	*74 mm*	

PAPER THRESHOLD

Threshold value (in percent) for the recognition of the presence of paper by the paper presence sensor:

30%	*60% [D]*	*90%*
40%	*70%*	
50%	*80%*	

NOTCH/B.MARK POSITION

Position of the alignment notch and choice of appropriate notch sensor:

Disabled [D] = the notch alignment is not performed
Top = the notch position is detected by the upper sensor (reflection)
Bottom = the notch position is detected by the lower sensor (reflection)
Transparence = the notch position is detected by both the sensors (transparence)

NOTCH/B.MARK THRESHOLD

Threshold value (in percent) for the recognition of the presence of notch by the notch sensor:

30%	*60%*	*90%*
40% [D]	*70%*	
50%	*80%*	

NOTE: If the “Notch/B.Mark Position” parameter is disabled, this parameter is not printed.

NOTCH DISTANCE

"Notch Distance" is the minimum distance (in mm) between the upper edge of ticket and the notch (see chapter 10).
The numeric value of the distance is made up with the following four parameters for the setting of three digits (two for the integer part of the number and one for the decimal part) and of the sign:

NOTCH DISTANCE SIGN	*Sign setting:* *+ [D] = positive distance* *- = negative distance*
NOTCH DISTANCE [mm x 10]	*Setting the digit for tens:* *0 [D] 2 4 6 8* *1 3 5 7 9*
NOTCH DISTANCE [mm x 1]	*Setting the digit for units:* *0 [D] 2 4 6 8* *1 3 5 7 9*
NOTCH DISTANCE [mm x .1]	*Setting the digit for decimals:* *0 [D] 2 4 6 8* *1 3 5 7 9*

NOTE: For example, to set the notch distance to 15 mm, modify the parameters as follows:
Notch Distance Sign = +
Notch Distance [mm x 10] = 1
Notch Distance [mm x 1] = 5
Notch Distance [mm x .1] = 0
NOTE: If the "Notch/B.Mark Position" parameter is disabled, the parameters for the "Notch Distance" are not printed.

TICKET LOCKING

This parameter enables/disables the block of the paper inside the device where the ticket is not cut with the cutter, but is presented for the manual tear off by the user:

<u>KPM302, KPM303</u>
Disabled [D] = paper block disabled
Enabled = paper block enabled

<u>KPM302 (models with triple feeder)</u>
Disabled [D] = paper block disabled
By Printer = the motor remain switched on also at the printing end
By Feeder = stops the paper of the not active (idle) feeders in order to avoid that the paper parked in a idle feeder, is dragged inside the printer
Complete = ticket locking by printer and feeder (combination of the two previous effects)

NOTE: If the "Notch/B.Mark Position" parameter is disabled, the parameter is not printed.

PAPEREND BUFFER CLEAR

Cleaning mode of the data in receive buffer, if the printing is stopped due to lack of paper:

Disabled D = The data remain in the receive buffer. When the paper runs out, the printer keeps the remaining data in the receive buffer and prints the remaining portion of the ticket after that the new paper is loaded.
Enabled = When the paper runs out, all data in the receive buffer are deleted.

TICKET MANAGEMENT

This parameter allows the ticket management:

Disabled [D] = no check
Short Ticket = it is possible to manage tickets with length less than the distance between the notch sensor and the printing line
Check First = before printing, the device checks the integrity of the first ticket

PAPER END MANAGEMENT
(only for models with triple feeder)

Management of the paper end sensors of triple feeder:

Print All [D] = when the paper end sensor of a feed line of the triple feeder detects the paper end, it is not possible to change the feed line until all tickets remaining in that feed line are printed (so that the paper sensors of the printer will have detected the end of paper)
Eject = when the paper end sensor of a feed line of the triple feeder detects the paper end, the printer automatically ejects the paper remaining on that feed line and prints diagonal voiding lines on the remaining tickets
Retract = when the paper end sensor of a feed line of the triple feeder detects the paper end, the printer performs a paper retracting up to the parking position

RFID MODULE BAUD RATE

Communication speed of the RFID module:

115200	*38400 [D]*	*9600*	*2400*
57600	*19200*	*4800*	*1200*

NOTA: if the RFID module is not recognized in the printer status (“RFID module = Not Present”), set this parameter on the correct value.

PRINT DENSITY

Adjusting the printing density:

-50%	*-12%*	*+25%*
-37%	*0 [D]*	*+37%*
-25%	*+12%*	*+50%*

5.5 Ethernet parameters

This printer allows the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the printer has been turned off.

DHCP CLIENT	*Setting of the DHCP protocol:* *Disabled [D] = protocol disabled* *Enabled = protocol enabled*
FTP SERVER	*Setting of the FTP server:* *Disabled [D] = server disabled* *Enabled = server enabled*
IP ADDRESS	*IP address of printer; this parameter is assigned by the network administrator.* **NOTE:** Press the FORM FEED key to modify the value of the highlighted digit. Pressing LINE FEED key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the LINE FEED key).
SUBNET MASK	*This parameter identifies the local network address.* **NOTE:** Press the FORM FEED key to modify the value of the highlighted digit. Pressing LINE FEED key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the LINE FEED key).
DEFAULT GATEWAY	*This parameter identifies the Gateway IP address used to send applications to the external network.* **NOTE:** Press the FORM FEED key to modify the value of the highlighted digit. Pressing LINE FEED key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the LINE FEED key).
MAC ADDRESS	*This is the number, provided by the constructor, that identifies the printer; this number is univocal.* **NOTE:** This parameter can't be modified by set up.

ATTENTION:
Any changes to network parameters will interrupt browser connection. If the server not responding you must reconnect to the new IP address set.

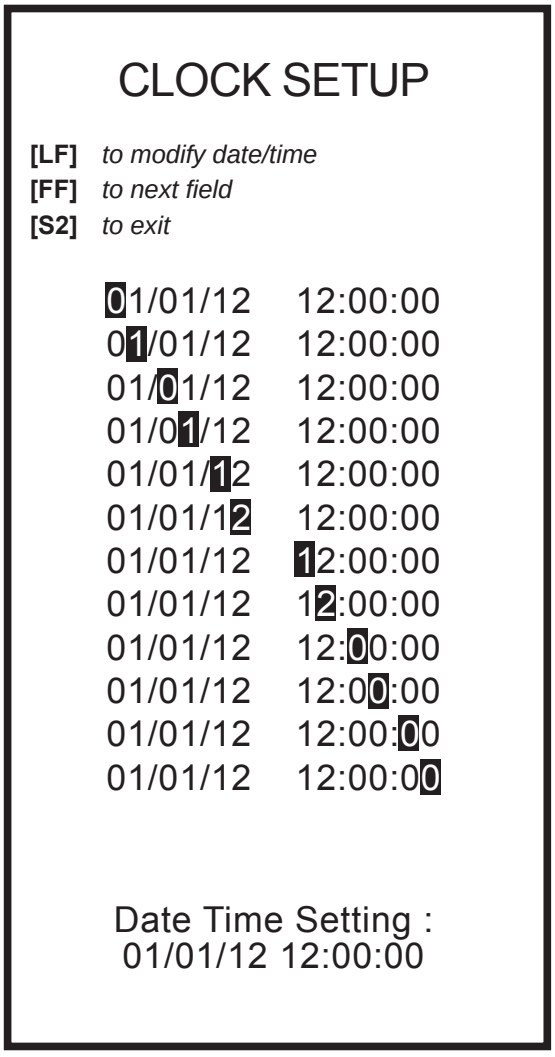
5.6 Hexadecimal dump

This function is used to diagnose the characters received through the communication port; the characters are printed out both as hexadecimal codes and ASCII codes.
Once the self-test routine has finished, the printer enters Hexadecimal Dump mode. The printer remains in standby until a key is pressed or characters are received through the communication port. For example, in the 200 dpi model, for every 8 characters received, the hexadecimal and corresponding ASCII codes are printed out (if the characters are underlined, the receive buffer is full). Shown below is an example of a Hexadecimal Dump:

48	65	78	61	64	65	63	69	Hexadeci
6D	61	6C	20	64	75	6D	70	mal dump
20	66	75	6E	63	74	69	6F	functio
6E	20	30	31	32	33	34	35	n 012345
36	37	38	39	61	62	63	64	6789abcd
65	66	67	68	69	6A	6B	6C	efghijkl
6D	6E	6F	70	71	72	73	74	mnopqrst
75	76	77	78	79	7A			uvwxyz

5.7 Calendar clock

The printer is equipped with a Real Time Clock. During power-up, held down the LINE FEED key to enter in the printer configuration mode. Pressing the S1 key to enter in the clock configuration (see following figure).
Pressing the LINE FEED key to modify date / time; the printer will be print the updated the date and time.
Follow the instructions printed on the paper for the key functionality. The highlighted digit (the number is written in negative mode) indicates the digit to be modified. Pressing LINE FEED key to modify the value of the highlighted digit; every single LINE FEED key pressure increases of 1 his value. Once the value 9 is reached the counting starts again from 0.
Pressing FORM FEED key to move the cursor on the next digit; if the cursor position is on the latest digit you can proceed to next parameter pressing the FORM FEE key again.
Pressing S2 key to exit and terminate the setting procedure.

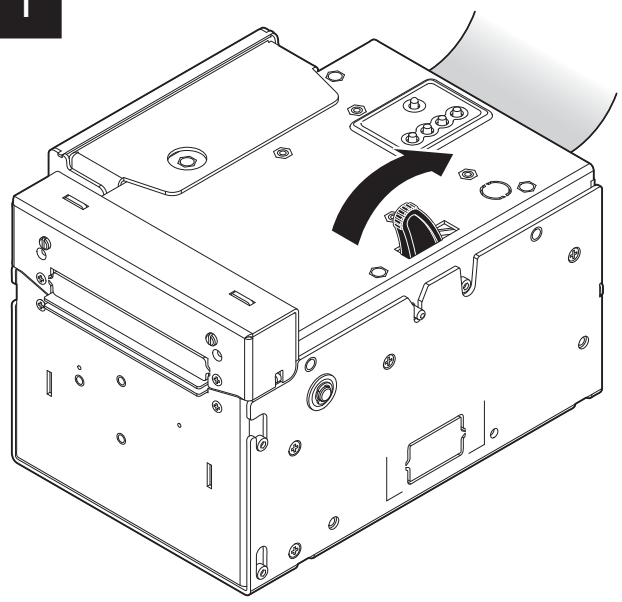


6 MAINTENANCE

6.1 Printer paper jam

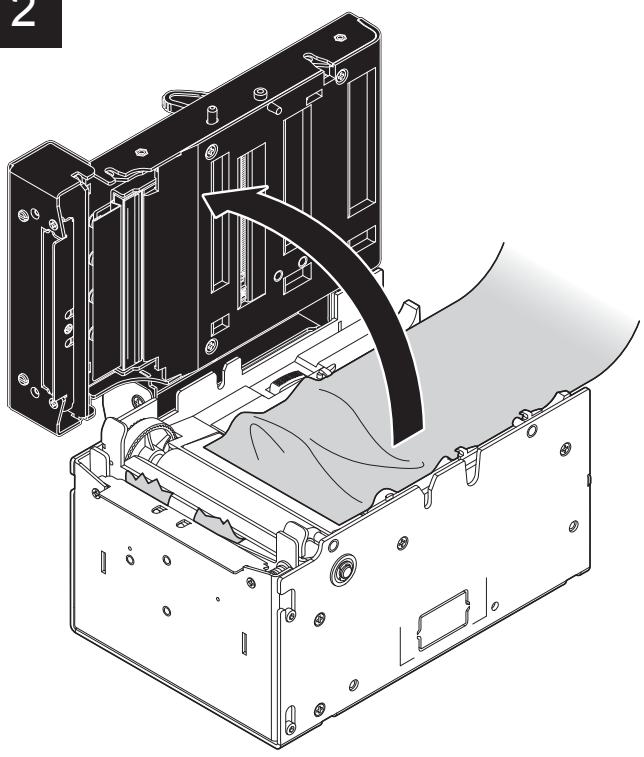
In case of paper jam proceed as follows:

1

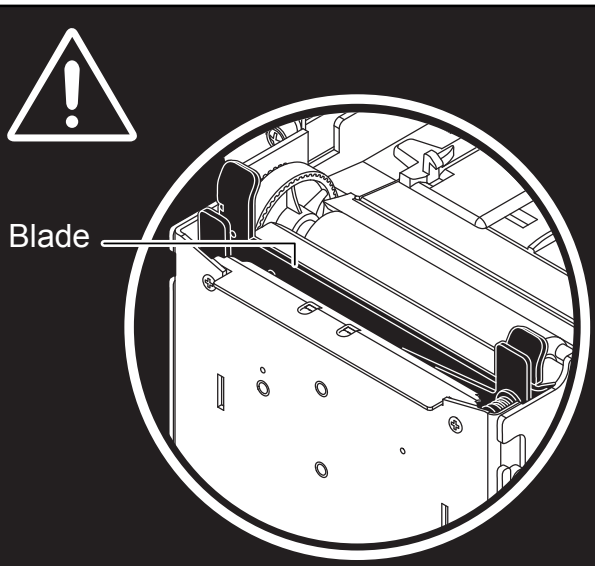


Lift the release lever.

2

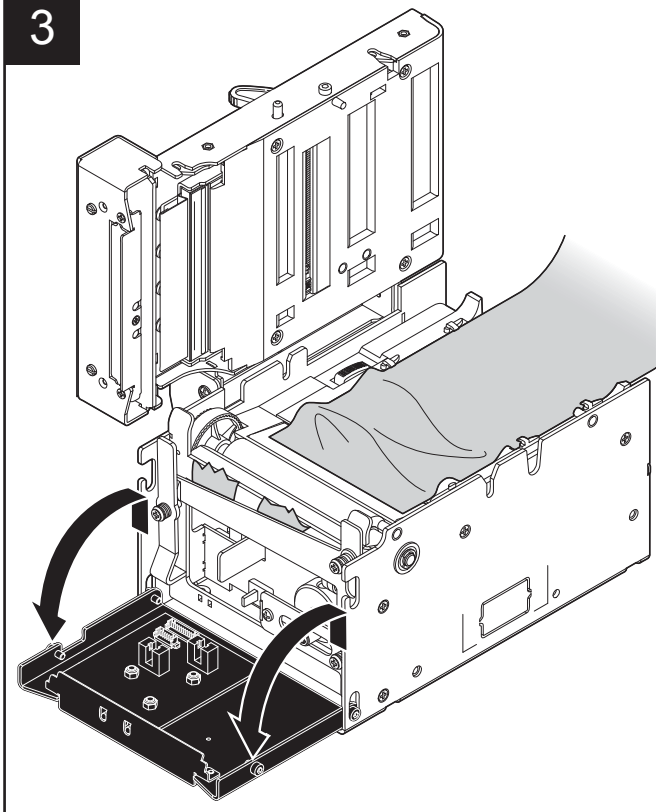


Open the printer cover.



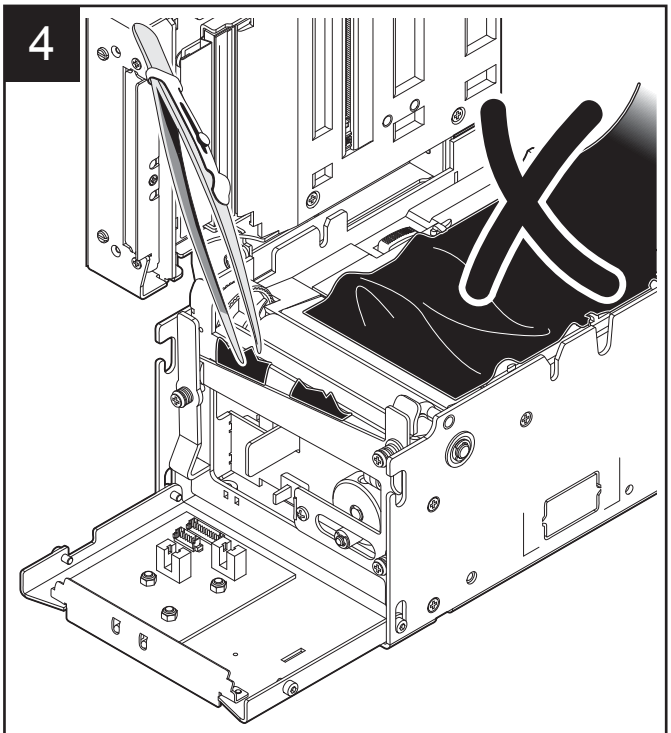
ATTENTION:
Pay attention to not work near the cutter blade with the finger (see the figure), because the cutter blade exposes its sharp part.

3



Open the frontal cover.

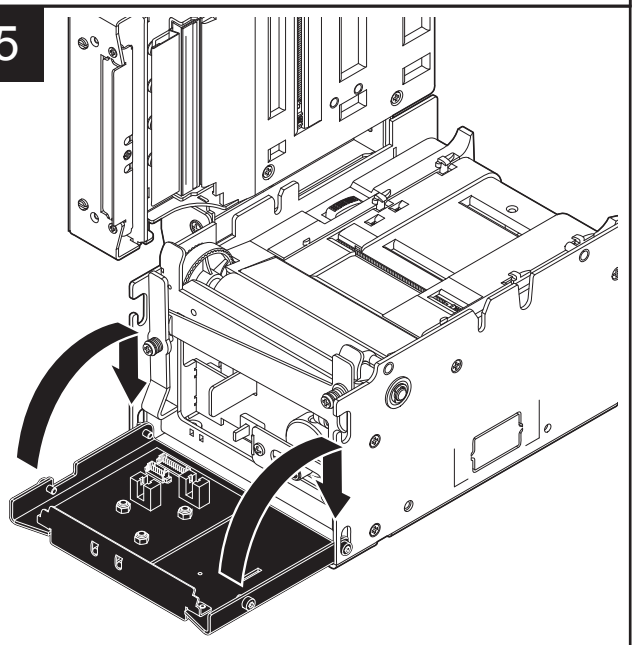
4



ATTENTION:
Do not let water or other liquids get inside the device.
Do not insert any kind of object inside the device.

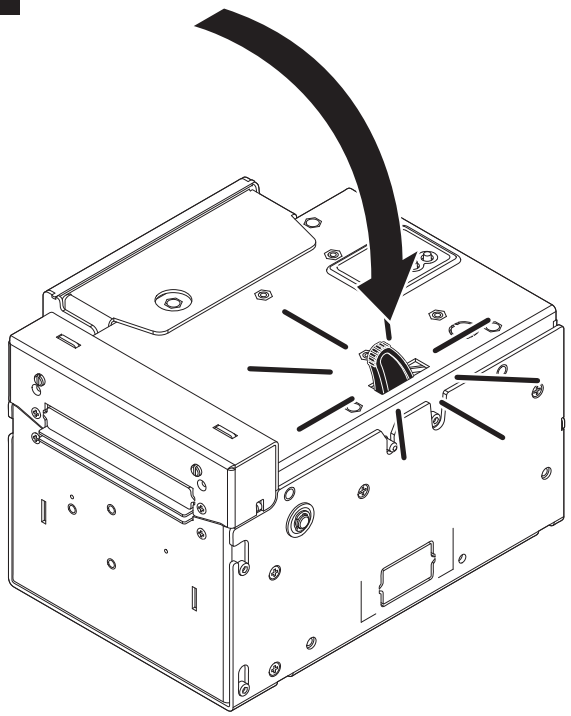
Remove the damaged paper and check the presence for paper scraps inside the printer; carefully remove all scraps of paper. If necessary, use tweezers.

5



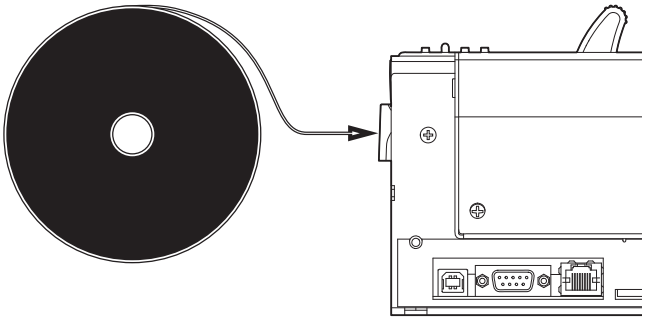
Close the frontal cover.

6



Close the printer cover.

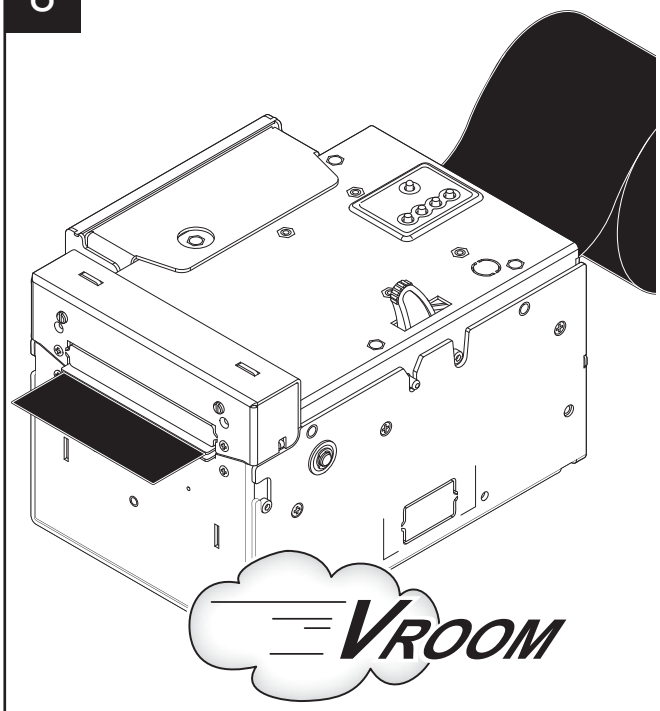
7



ATTENTION:
Make sure the cut is straight.

Insert the paper edge into the feed slot
(place the paper roll so that it unrolls correctly).

8



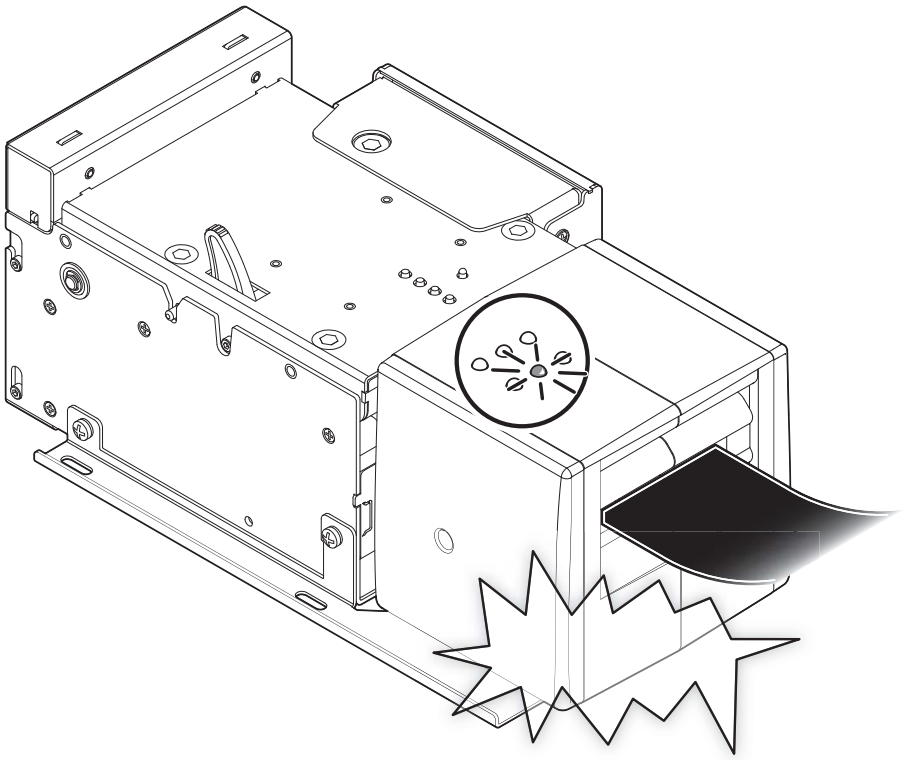
Wait for the paper to load automatically.

6.2 Triple feeder paper jam

KPM302 (models with triple feeder)

In case of paper jam inside the triple feeder, the green led that corresponds to the input paper jammed flashes quickly. In this case, contact the Customer Service.

1



Il led verde corrispondente all'ingresso carta inceppato del gruppo di caricamento lampeggia velocemente.

2

support@custom.it

Assistenza Tecnica

Inviare una e-mail al Servizio di Assistenza Tecnica (vedere il capitolo 11).

6.3 Planning of cleaning operations

The regular cleaning of the device keeps the print quality and extends its life. The following table shows the recommended planning for the cleaning operations.

EVERY PAPER CHANGE	
Printing head	Use isopropyl alcohol
Printing roll	Use isopropyl alcohol
Window for barcode reading (1)	Use a soft cloth
EVERY 5 PAPER CHANGES	
Cutter	Use compressed air
Paper path	Use compressed air or tweezers
Sensors	Use compressed air
Triple feeder (2)	Use the dedicated cleaning kit (3)
EVERY 6 MONTHS OR AS NEEDED (1)	
Case	Use compressed air or a soft cloth

For specific procedures, see the following pages.

NOTE:
If you use the device in dusty environments, you must reduce the intervals between the cleaning operations.

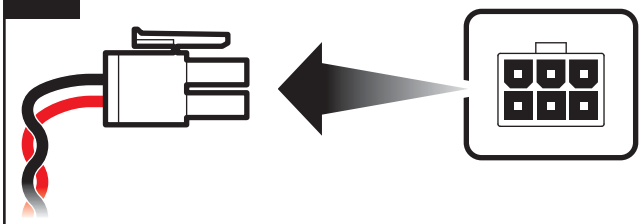
NOTES:
(1) For models with barcode reader.
(2) For KPM302 models with triple feeder.
(3) For cleaning kit, contact Customer Service.

6.4 Cleaning

For periodic cleaning of the printer, see the instructions below.

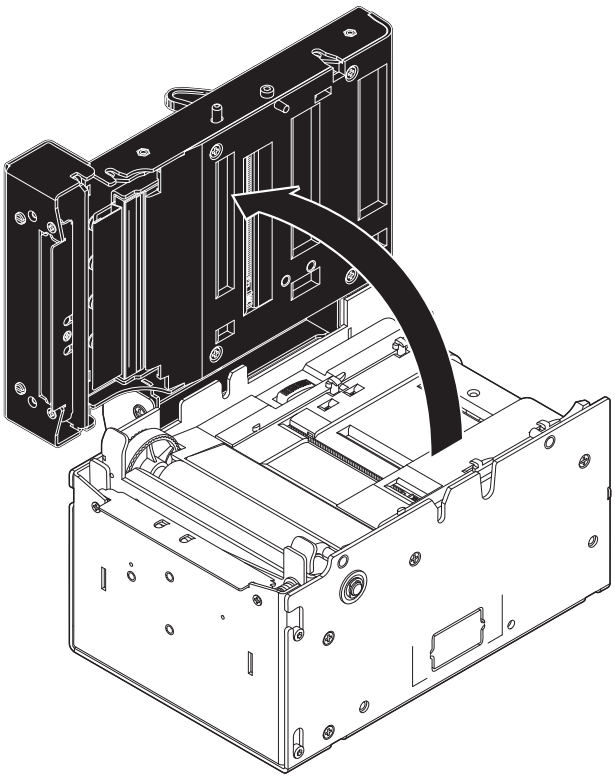
PRINTING HEAD

1



Disconnect the power supply cable.

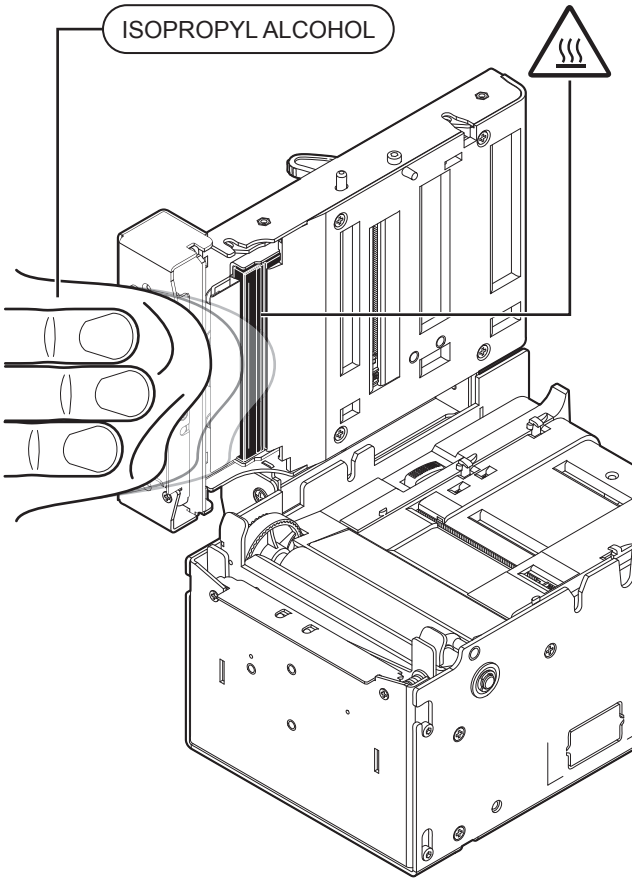
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

Open the upper printer cover
to the lock position.

3

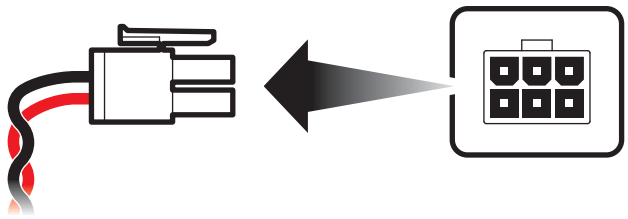


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the printing head by using
a non-abrasive cloth moistened with isopropyl.

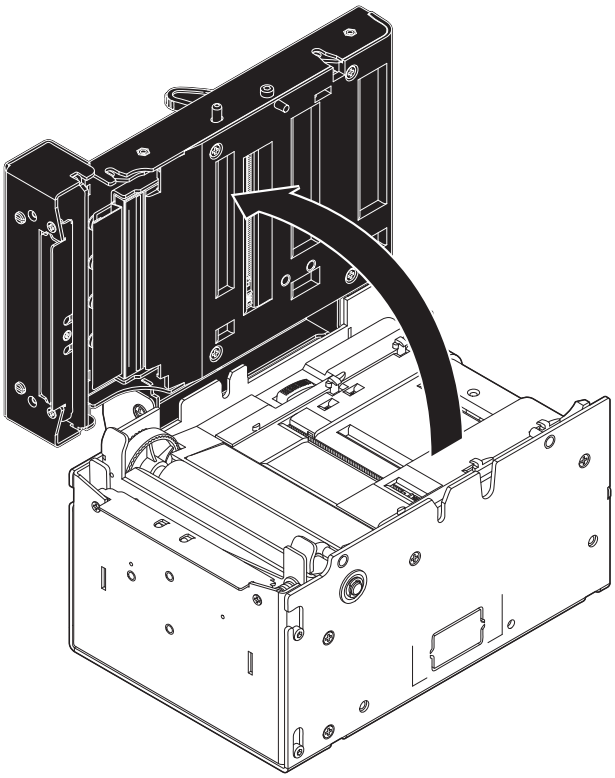
CUTTER

1



Disconnect the power supply cable.

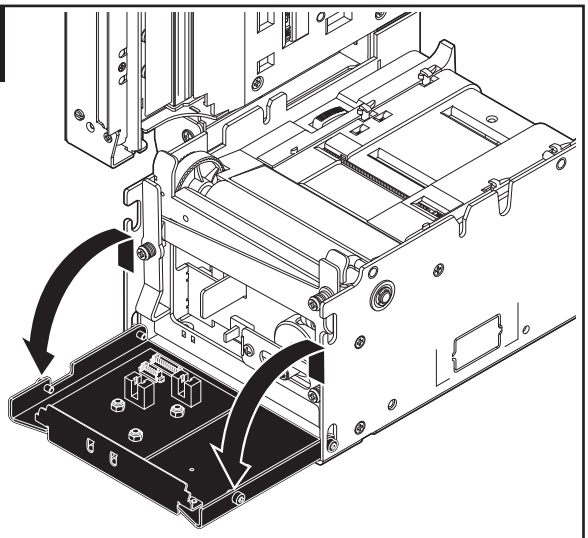
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

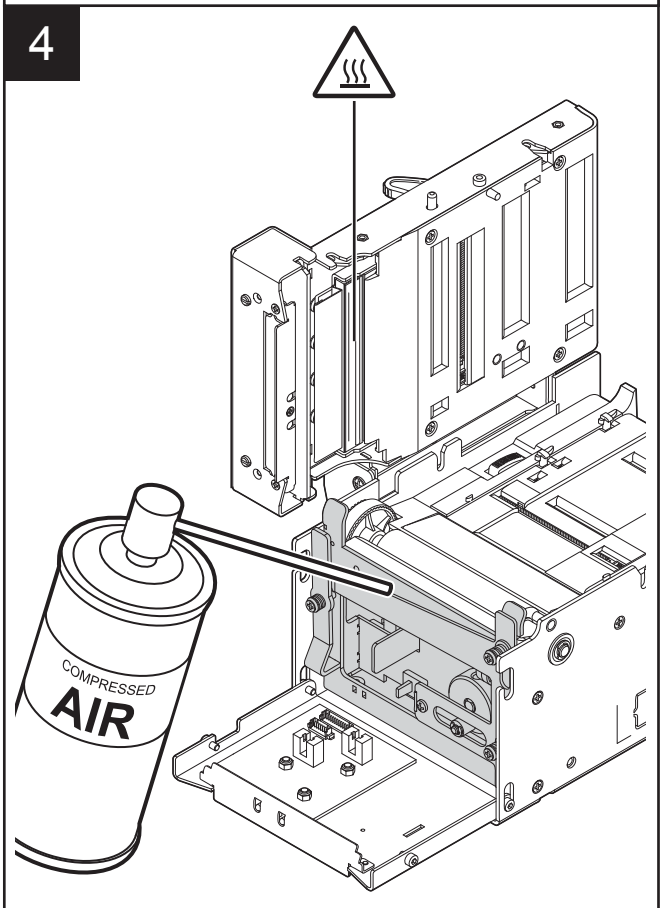
Open the upper printer cover
to the lock position.

3



Open the frontal printer cover.

4



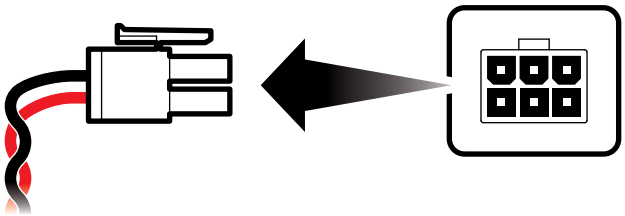
ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the cutter
by using compressed air.

WINDOW FOR BARCODE READING

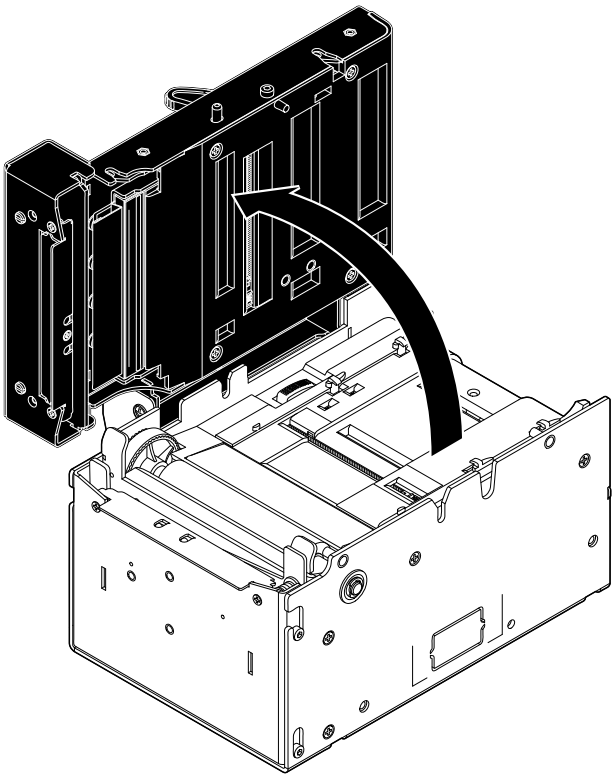
(for models with reader for one-dimensional barcode)

1



Disconnect the power supply cable.

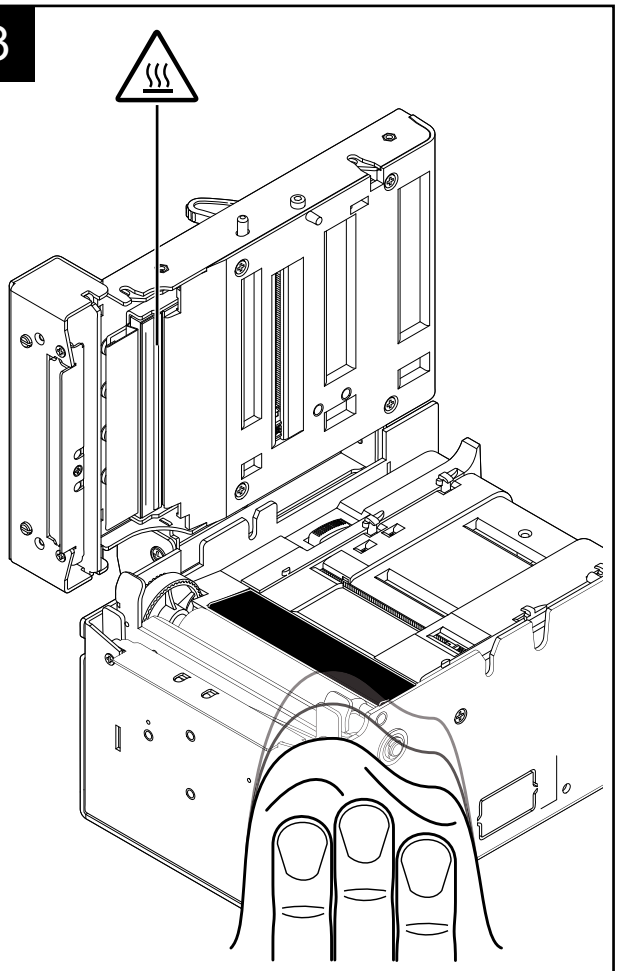
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

Open the upper printer cover to the lock position.

3

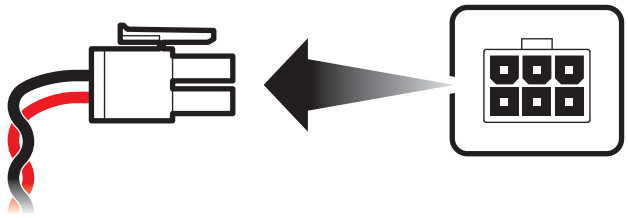


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the window for barcode reading by using a non-abrasive cloth.

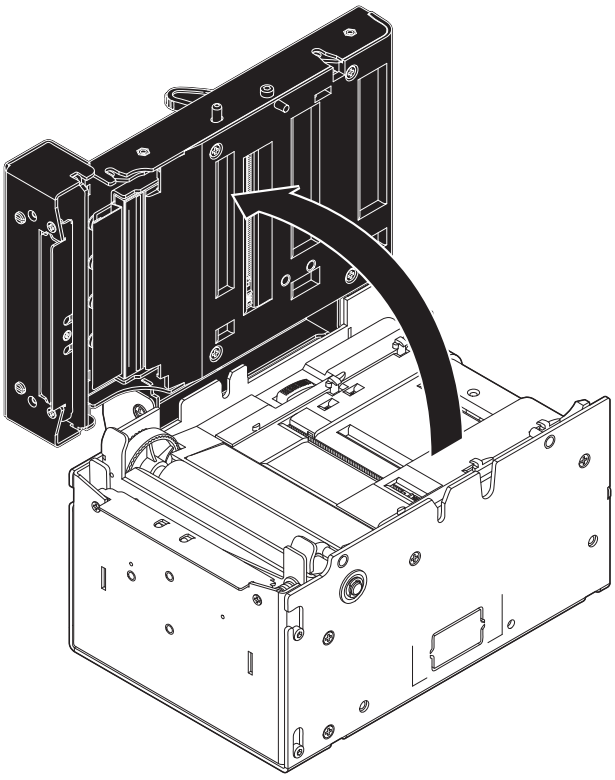
PRINTING ROLL

1



Disconnect the power supply cable.

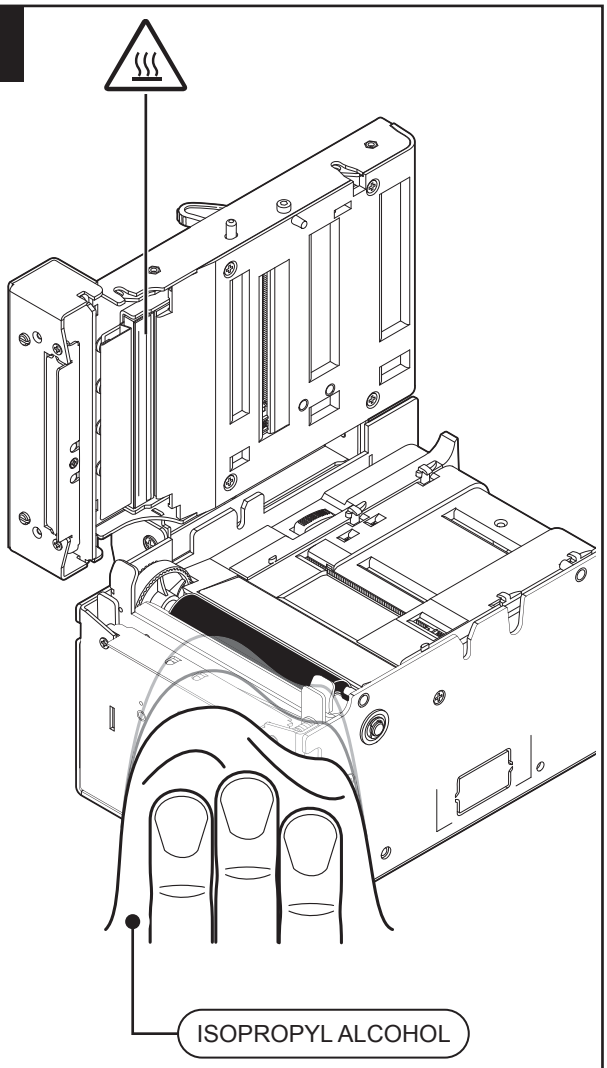
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

Open the upper printer cover
to the lock position.

3

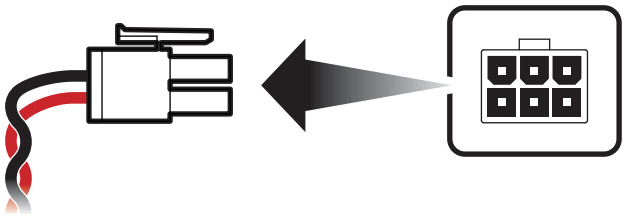


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the printing roll by using
a non-abrasive cloth moistened with isopropyl.

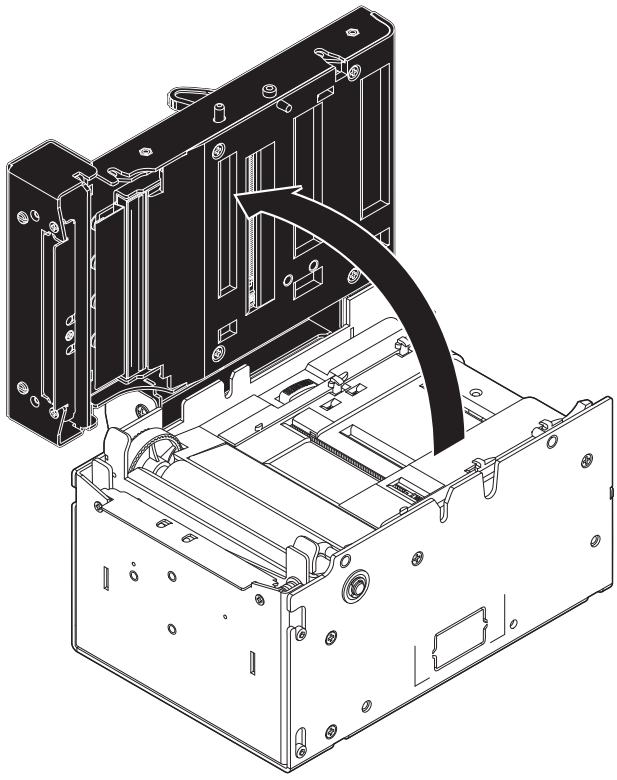
SENSORS

1



Disconnect the power supply cable.

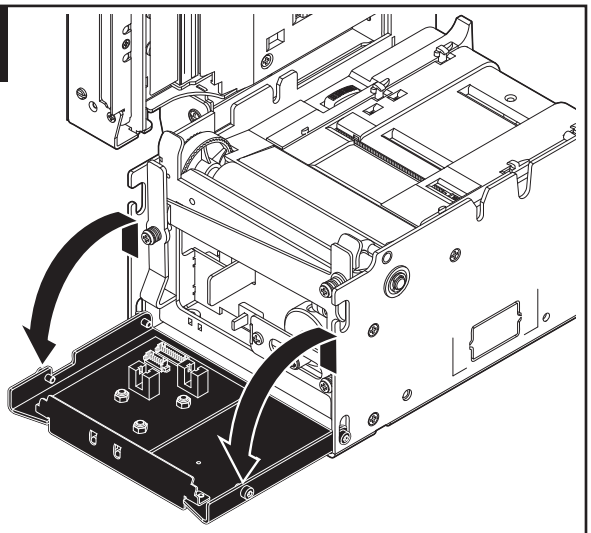
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

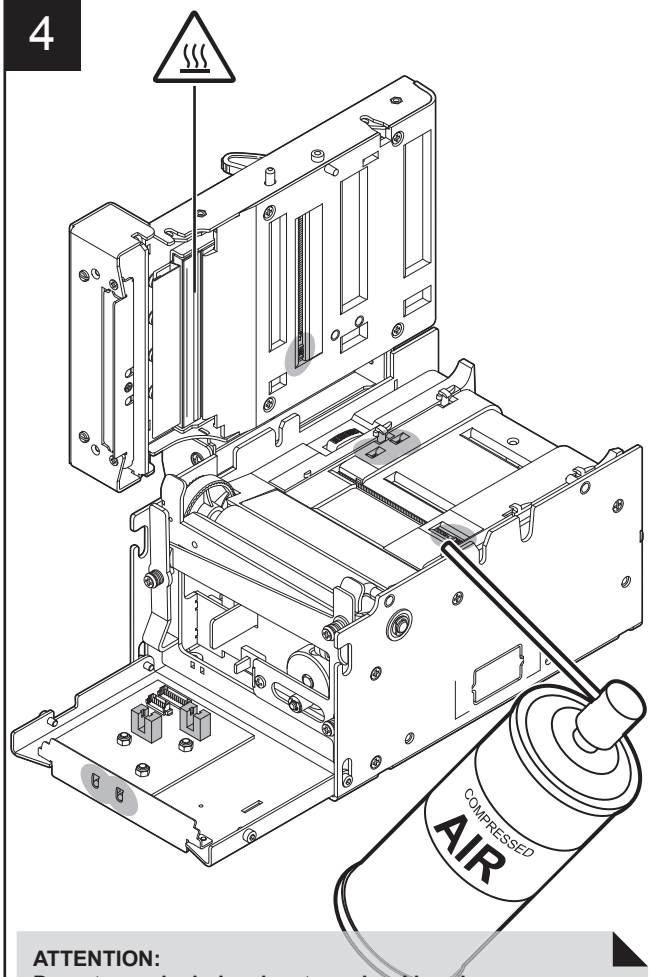
Open the upper printer cover to the lock position.

3

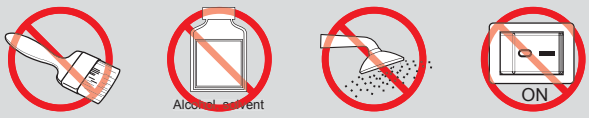


Open the frontal cover.

4



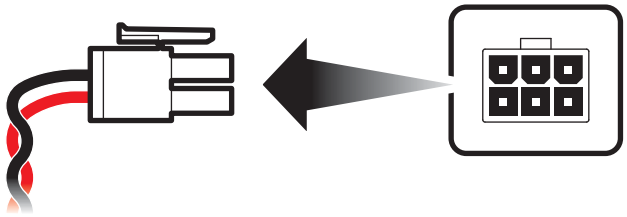
ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.



Clean the printer sensors by using compressed air.

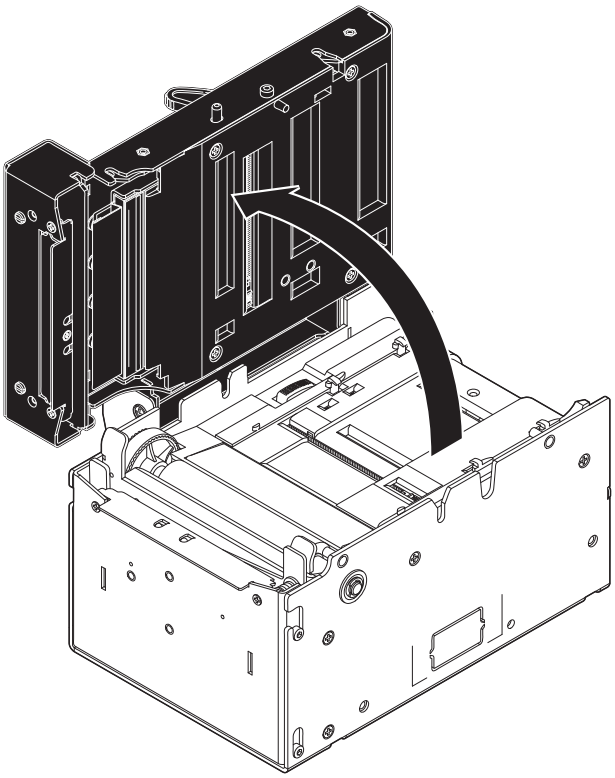
PAPER PATH

1



Disconnect the power supply cable.

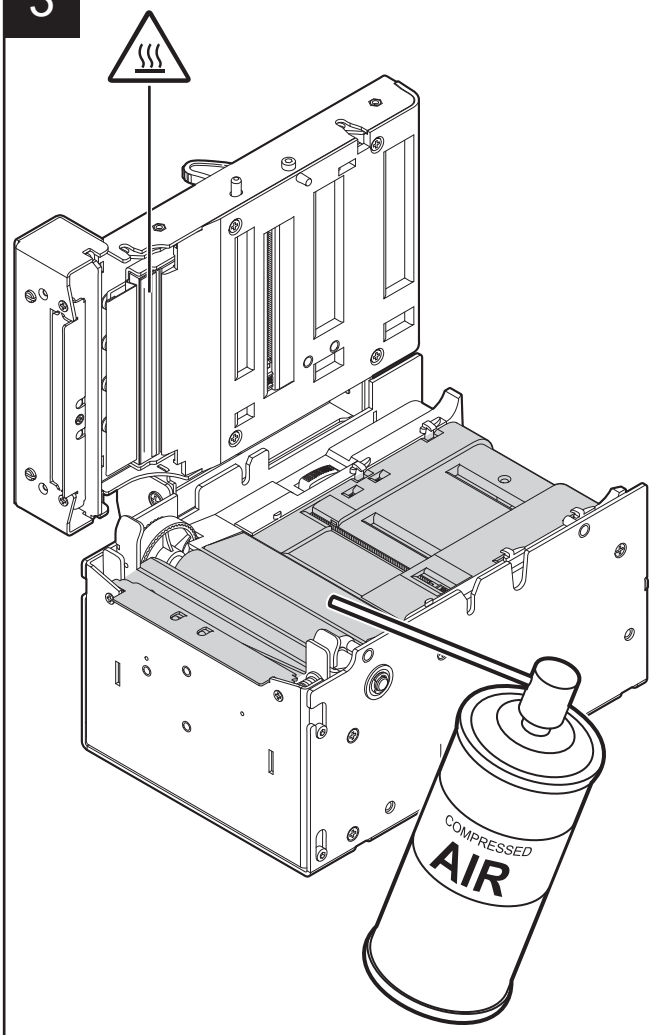
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

Open the upper printer cover
to the lock position.

3



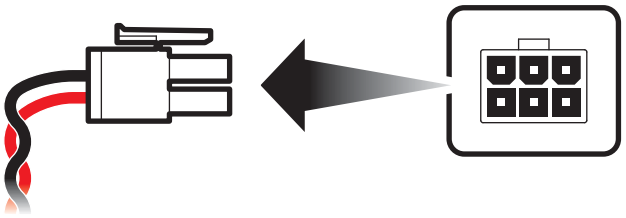
ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the area involved in the passage of paper
by using compressed air.

TRIPLE FEEDER

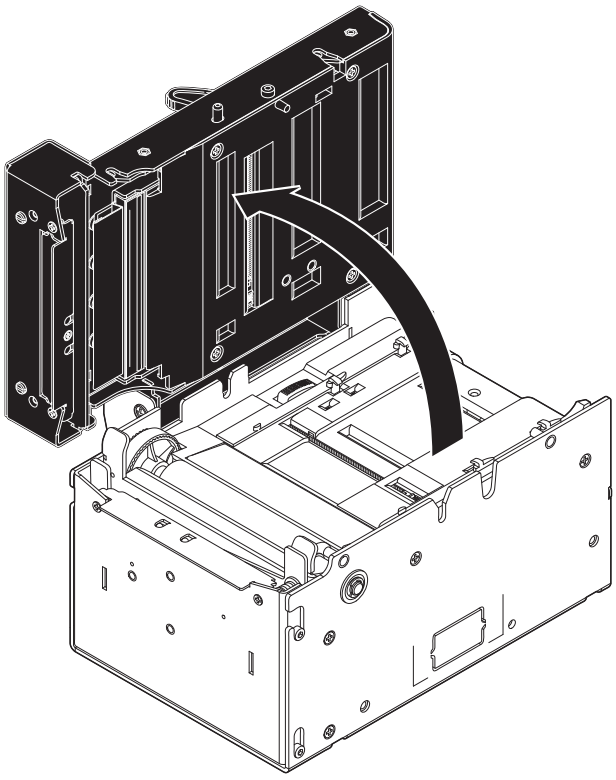
(only for KPM302-TF)

1



Disconnect the power supply cable.

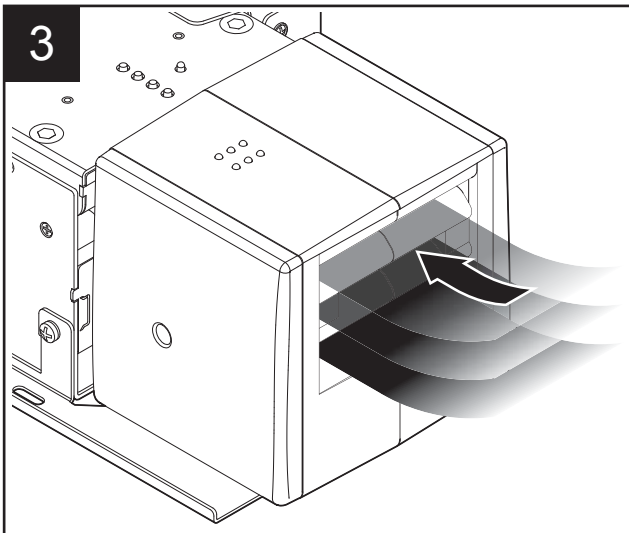
2



ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

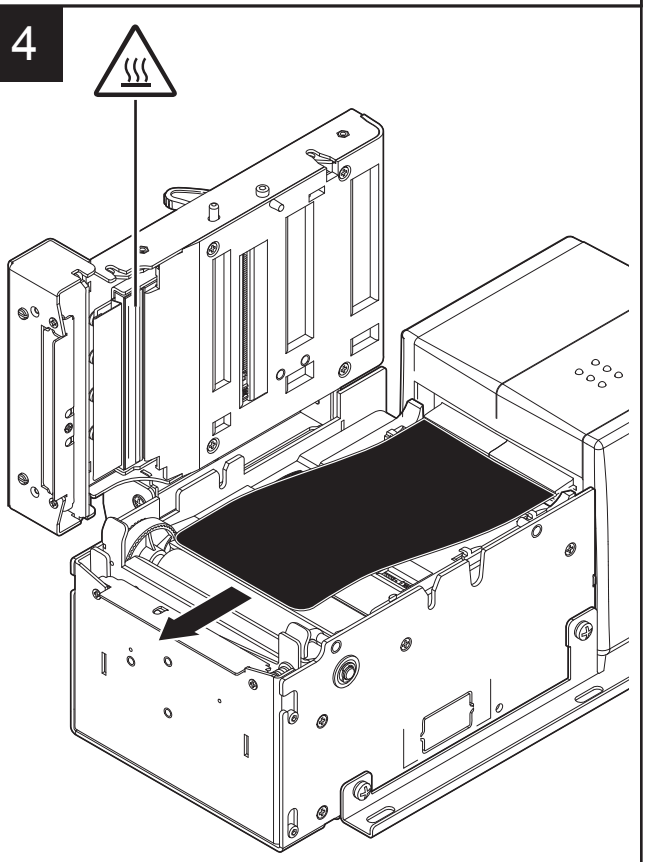
Open the upper printer covers to the lock position.

3

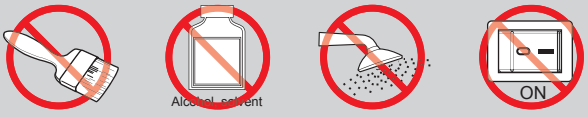


Insert the edge with the rounded corners of the ticket of the cleaning kit in each of the three feeders.

4



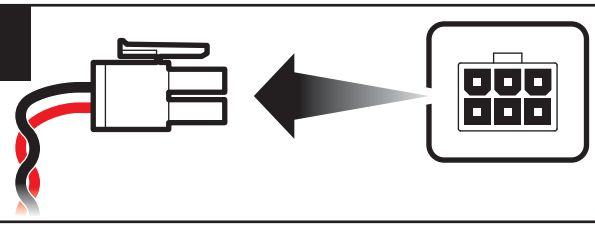
ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.



Push the ticket to make out a few of centimetres on the flat inside the printer and pull the ticket out of the internal floor.

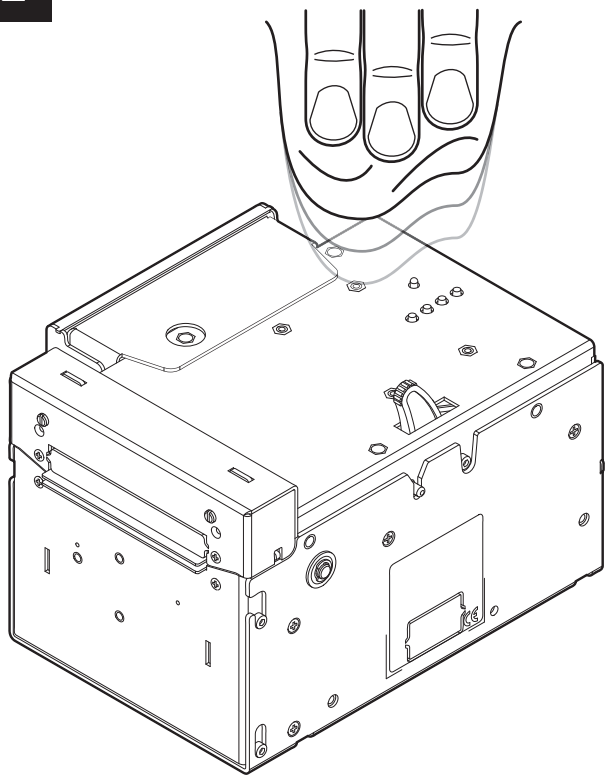
CASE

1

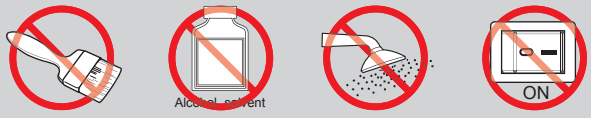


Disconnect the power supply cable .

2



ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.



To clean the device,
use compressed air or a soft cloth.

6.5 Upgrade firmware

WARNING: During communication between PC/ printer for the firmware update it is strictly forbidden to disconnect the communication cable or to remove the power supply of the devices not to endanger the proper functioning of the printer.

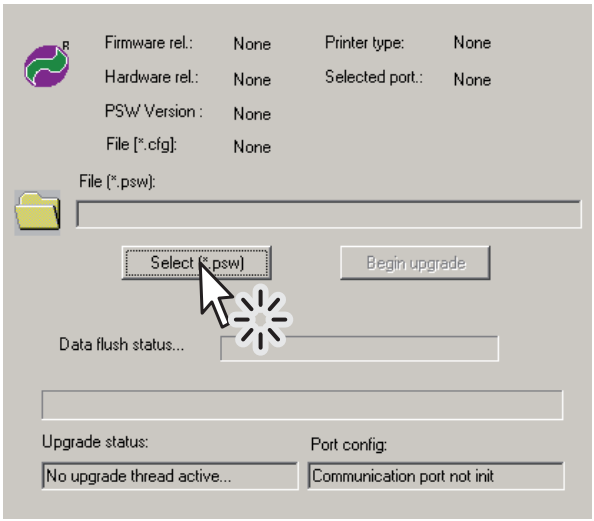
Note: The latest firmware of the printer is available in the download area of the web site www.custom.biz.

Note: Install on the PC used for printer upgrading the UPGCEPRN software available in the download area of the web site www.custom.biz.

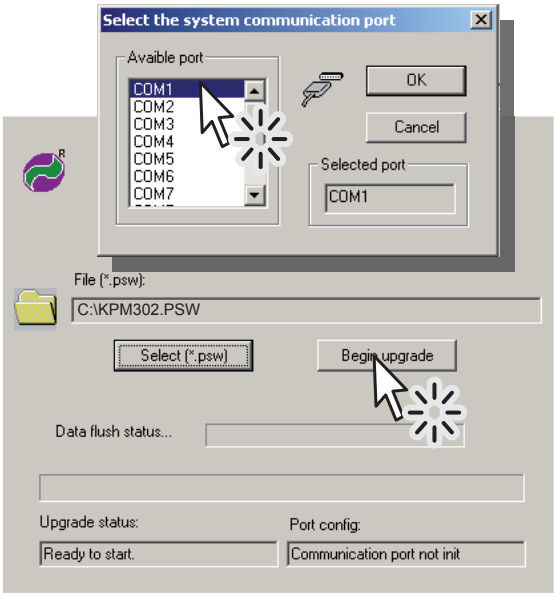
UPDATE VIA SERIAL INTERFACE

Proceed as follows:

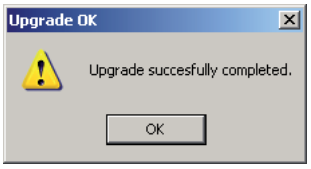
1. Print the SETUP report (see chapter 5).
2. Switch off the printer.
3. Connect the printer to the PC using a serial cable (see paragraph 3.4).
4. Switch ON the printer.
5. Start the software UPGCEPRN.
6. Select the update file .PSW location :



7. Select the serial communication port (ex. COM1):



8. Detecting and setting of the parameters necessary for serial communication are performed automatically and then updating begins.
9. After a few minutes a message on the screen warns that the update is completed.



10. Print a new SETUP report to verify the new firmware release (see chapter 5).

UPDATE VIA USB INTERFACE

WARNING: Only during the firmware update, the connection between PC and printer must be direct, without the use of wireless HUB.

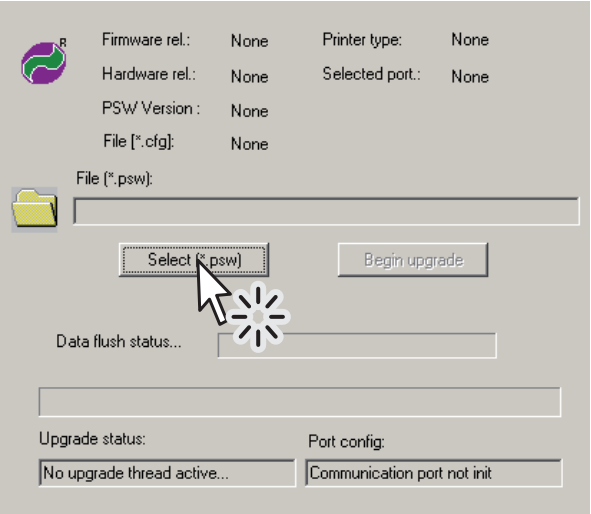
WARNING: Only during the firmware update, do not connect or disconnect other USB devices.

Note: For communication via USB you must install on PC the printer driver available in the download area of the web site www.custom.biz.

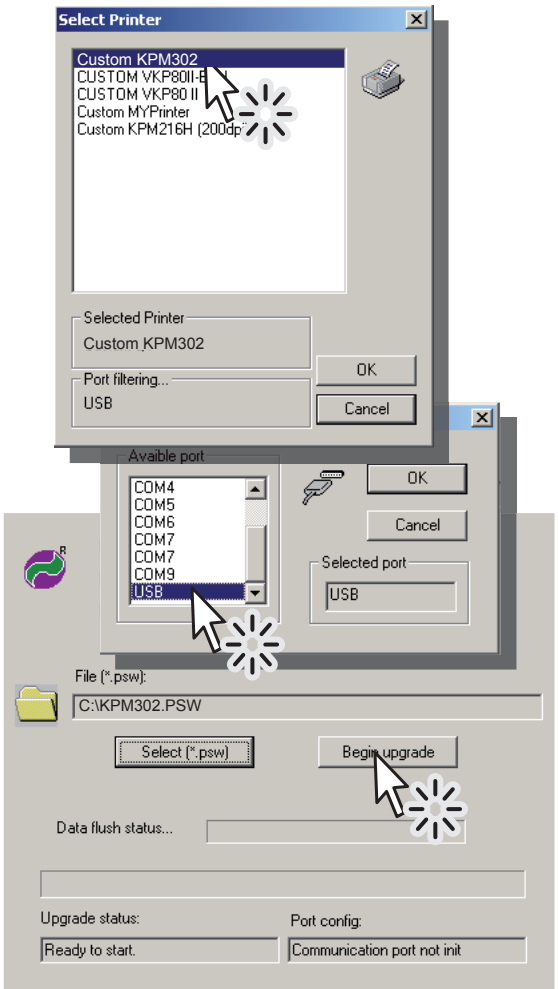
Proceed as follows:

1. Print the SETUP report (see chapter 5).
2. Switch off the printer.
3. Connect the printer to the PC using a USB cable (see paragraph 3.4).
4. Switch ON the printer.
5. Start the software UPGCEPRN.

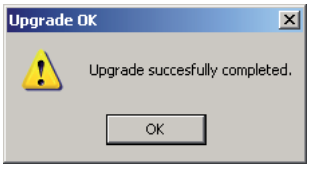
6. Select the update file .PSW location :



7. Select item USB and then select the USB device among those proposed (ex.KPM302):



8. After a few minutes a message on the screen warns that the update is completed.



9. Print a new SETUP report to verify the new firmware release (see chapter 5).

7 SPECIFICATIONS

7.1 Hardware specifications

GENERAL	
Sensors	Ticket presence, head temperature, mobile detector for black mark and translucent gap/hole (setting by software), ticket presence on output, cover open, cutter compartment open, external near paper end
Sensors *(models with selector)*	Ticket presence, head temperature, mobile detector for black mark and translucent gap/hole (setting by software), ticket presence on output, cover open, cutter compartment open, external near paper end, tilting slide position
MTBF (1)	84 080 hours
Noise level	
KPM302	74 dBA
KPM302 *(models with triple feeder)*	75 dBA
KPM303	73 dBA
Emulations	ESC/POS™, SVELTA
INTERFACES	
USB connector	12 Mbit/sec
RS232 serial connector	from 1200 to 115200 bps
ETHERNET connector	10 Mbit/sec
MEMORIES	
Receive buffer	64 Kbytes
Flash memory	16 Mbytes
Graphic memory	Logos dynamic management (max 2MB graphic memory)
Memory Card SD/MMC	Capacity = max 2 Gbytes
PRINTER	
Resolution	
KPM302	203 dpi (8 dot/mm)
KPM303	304 dpi (12 dot/mm)
Printing method	Thermal, fixed head
Head life (2)	50 Km / 100M pulses
Printing mode	Normal, 90°, 180°, 270°
Printing format	Height/Width from 1 to 8, bold, reverse, underlined, italic

Character font	
ESC/POS™ emulation	PC437, PC850, PC860, PC863, PC865, PC858 (euro), 2 TrueType font (3)
ESC/POS™ emulation *(models with simplified chinese font)*	PC437, PC850, PC860, PC863, PC865, PC858 (euro),GB2312, 2 TrueType fonts (3)
ESC/POS™ emulation *(models with traditional chinese font)*	PC437, PC850, PC860, PC863, PC865, PC858 (euro), BIG5, 2 TrueType fonts (3)
SVELTA emulation	20 embedded fonts and 2 TrueType fonts (3)
Printable Barcode	UPCA, UPCE, EAN13, EAN8, CODE39, ITF, CODABAR, CODE93, CODE128, CODE32, PDF417, DATAMATRIX, AZTEC, QRCODE
Printing speed (2) (4)	
KPM302	High quality = 110 mm/sec Normal = 170 mm/sec High spped = 200 mm/sec
KPM303	High quality = 100 mm/sec Normal = 125 mm/sec High speed = 150 mm/sec
PAPER	
Type of paper	Thermal rolls, heat-sensitive side on outside of roll Fan Fold thermal paper with notch
Paper width	
KPM302, KPM303	from 20mm to 82,5mm (2mm step)
KPM302, KPM303 *(models with selector)*	from 40mm to 82,5mm (2mm step)
KPM302 *(models with triple feeder)*	54mm 82,5mm
Paper weight	
KPM302, KPM303	from 80 g/m^2 to 255 g/m^2 from 100 g/m^2 to 250 g/m^2 (“BURSTER” configuration)
KPM302 *(models with triple feeder)*	from 100 g/m^2 to 255 g/m^2 from 100 g/m^2 to 250 g/m^2 (“BURSTER” configuration)
Paper thickness	
KPM302 *(models with triple feeder)*	max 280 µm
Minimum ticket length *(models with selector)*	50 mm
External roll diameter (5)	max Ø300 mm
Internal roll core diameter	25 mm (+1 mm)
Core thickness	2 mm (+1 mm)
Paper end	Not attached to roll core
Core type	Cardboard or plastic

CUTTER	
Paper cut	Total
Estimated life [2]	1 500 000 cutter number
PRINTER ELECTRICAL SPECIFICATIONS	
Power supply	24 Vdc ± 10%
Medium consumption [4]	
KPM302	0,8 A
KPM302 *(models with triple feeder)*	1 A
KPM303	0,6 A
Standby consumption	0,14 A
POWER SUPPLY ELECTRICAL SPECIFICATIONS (cod.964GE020000004 - OPTIONAL)	
Power supply voltage	Auto Range, 90-132 VAC & 190-264 VAC
Frequence	from 47 Hz to 63 Hz
Current (output)	4,17 a
Power	100 W
ENVIRONMENTAL CONDITIONS	
Operating temperature	from 0°C to 50°C
Relative humidity	from 10% to 80% (w/o condensation)
Storage temperature	from -20°C to +70°C
Storage humidity	from 10% to 90%

NOTES
[1] : Electronic board.
[2] : Respecting the regular schedule of cleaning for the device components.
[3] : “Veramono.ttf” and “Vera.ttf” are installed on printer flash disk. It is possible to install additional TrueType fonts (see par.12.8).
[4] : Referred to a standard CUSTOM receipt (L=10cm, Density = 12,5% dots on).
[5] : For external rolls diameter higher to Ø100mm it’s recommended to use a paper pretensioning device.

7.2 Character specifications in ESC/POS™ emulation

KPM302			
Character set		3	
Character density	11 cpi	15 cpi	20 cpi
Number of columns	35	45	64
Chars / sec	2900	3800	5300
Lines / sec	83	83	83
Characters (L x H mm)-Normal	2,25 x 3	1,75 x 3	1,25 x 3
KPM303			
Character set		3	
Character density	16 cpi	23 cpi	30 cpi
Number of columns	53	68	96
Chars / sec	5300	6800	9600
Lines / sec	100	100	100
Characters (L x H mm)-Normal	1,5 x 2	1,2 x 2	0,8 x 2

7.3 Specifications for RFID reader/writer

TRANSPONDER SPECIFICATIONS [1]	
Supported transponders	HF high frequency RFID (13,5Mhz) [2] : ISO 14443A (Mifare 1K, 4K) and Ultralight ISO 15693 (i-Code tags) UHF ultra high frequency RFID (900 Mhz) [3] : ETSI fully compliant to the European Regulation ETSI EN 300 220 (869.525 MHZ), FCC compliant to the US telecommunication regulation FCC part 15 (902-928 MHZ), ISO 18000-6B, Philips UCODE EPC 1.19 EPC Class1 Gen2

NOTE
[1] : Only for models with RFID reader/writer (mifare/icode).
[2] : With optional ASK support also the ISO 14443B, Felica , Calypso and also other minor RFID standards.
[3] : Other UHF protocols are available with firmware upgrade.

7.4 Specification for reader of one-dimensional barcode

ONE-DIMENSIONAL BARCODE READER (mod.CX002) [1]	
Scan rate	200 scans/sec
Sensor	Liner CCD Sensor
Light source	Red Leds, 630 nm
Ambient light (Fluorescent lamp)	3000 LUX MAX
Resolution	5 mil. (0.127 mm)
Readable barcode	ALL UPC/EAN/JAN, Code 39, Code 39 Full ASCII, Code 128, Code 93, Interleave 25, Industrial 25, Matrix 25, China Postage, CODABAR/NW7, Code 11, MSI/PLESSEY, Code 32

NOTE
[1] : Only for models with one-dimensional barcode reader.

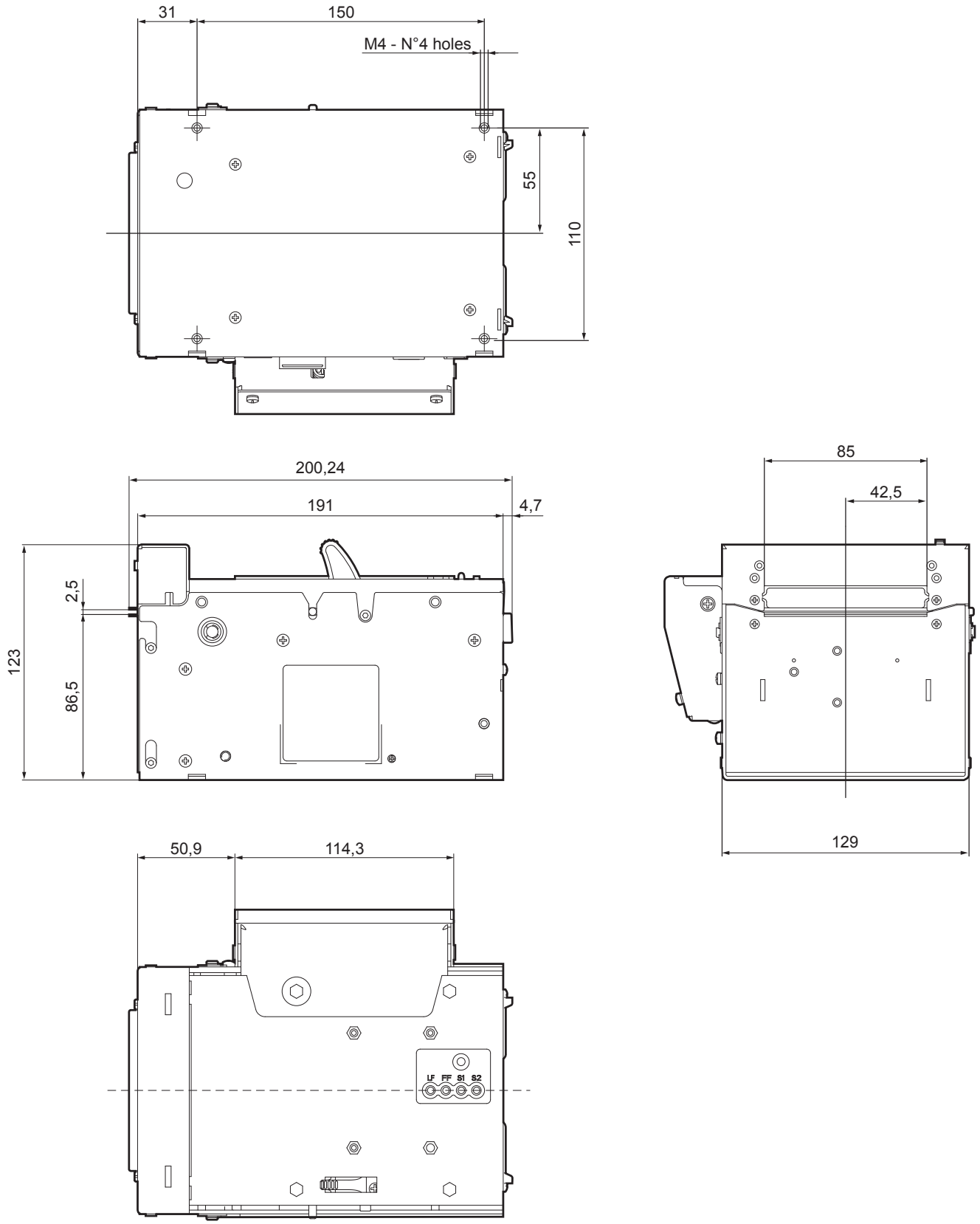
7.5 Printer dimensions

KPM302, KPM303 (1)	
Length *(with cutter cover closed)*	
standard models	191 mm
models with ejector	212,7 mm
models with selector	272,2 mm
models with triple feeder	307,5 mm
Height *(with printer cover closed)*	123 mm
Width	
models without triple feeder	160 mm
models with triple feeder	168 mm
Weight	
models without triple feeder	3500 g
models with triple feeder	5200 g

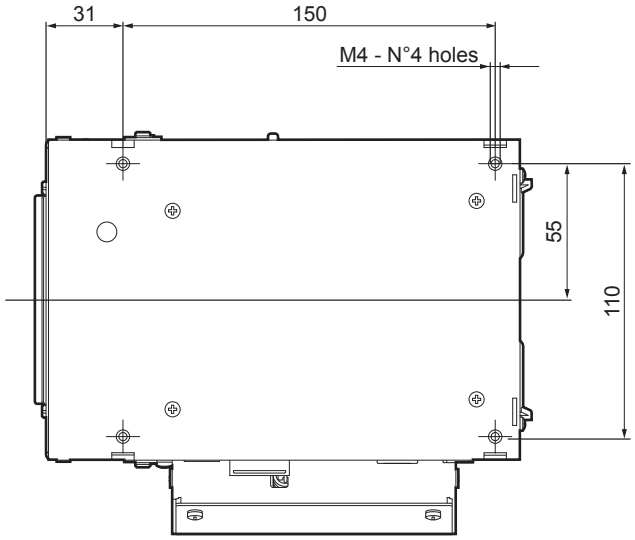
NOTE
(1) : Dimensions referred to devices without paper roll.

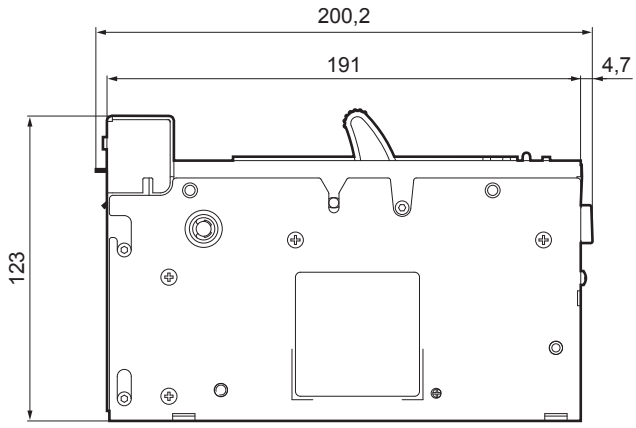
NOTE
All the dimensions shown in following figures are in mm.

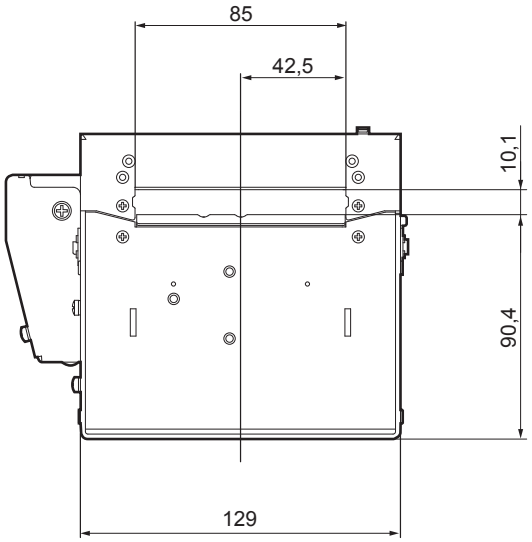
KPM302, KPM303 (standard models)

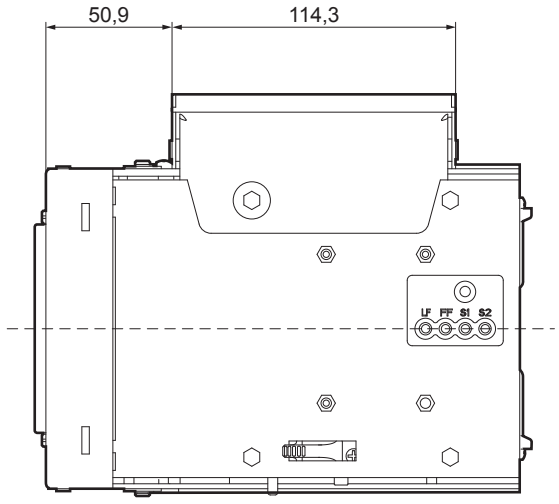


KPM302, KPM303 (models in the “CUT AND DROP” configuration)

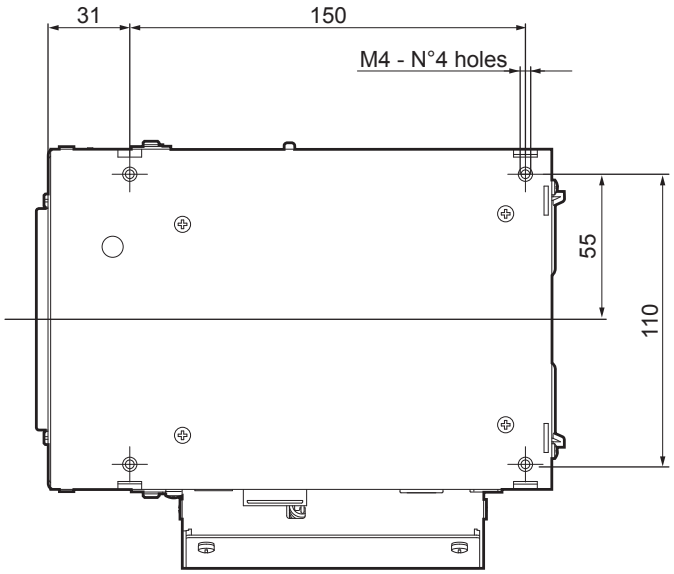


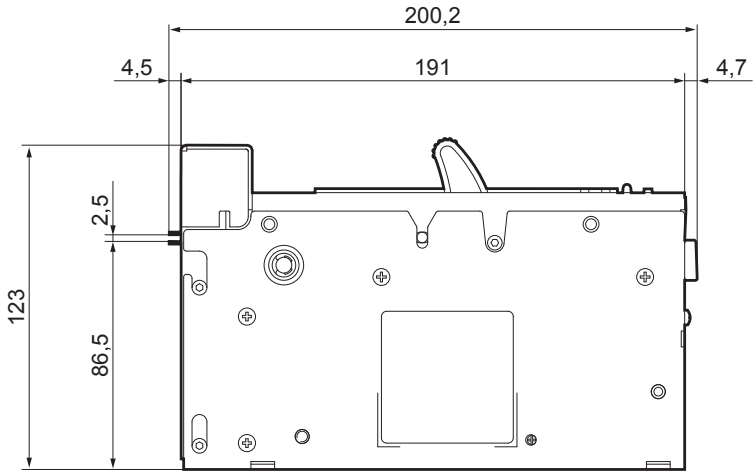


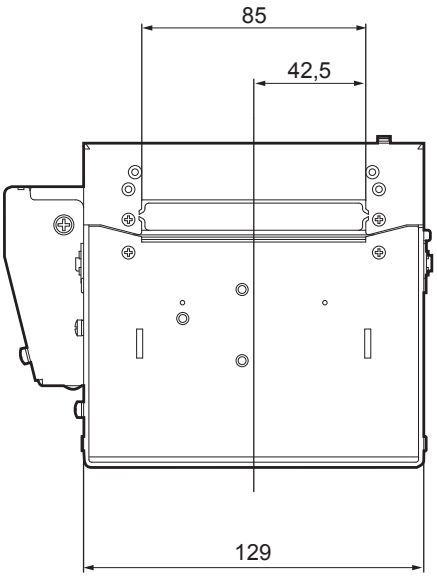


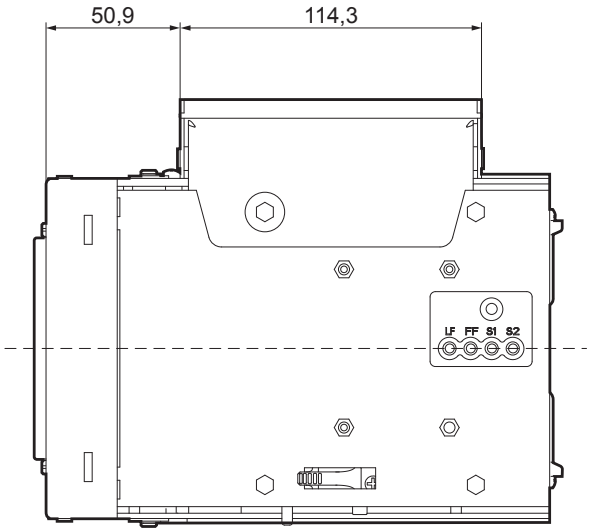


KPM302, KPM303 (models in the “BURSTER” configuration)

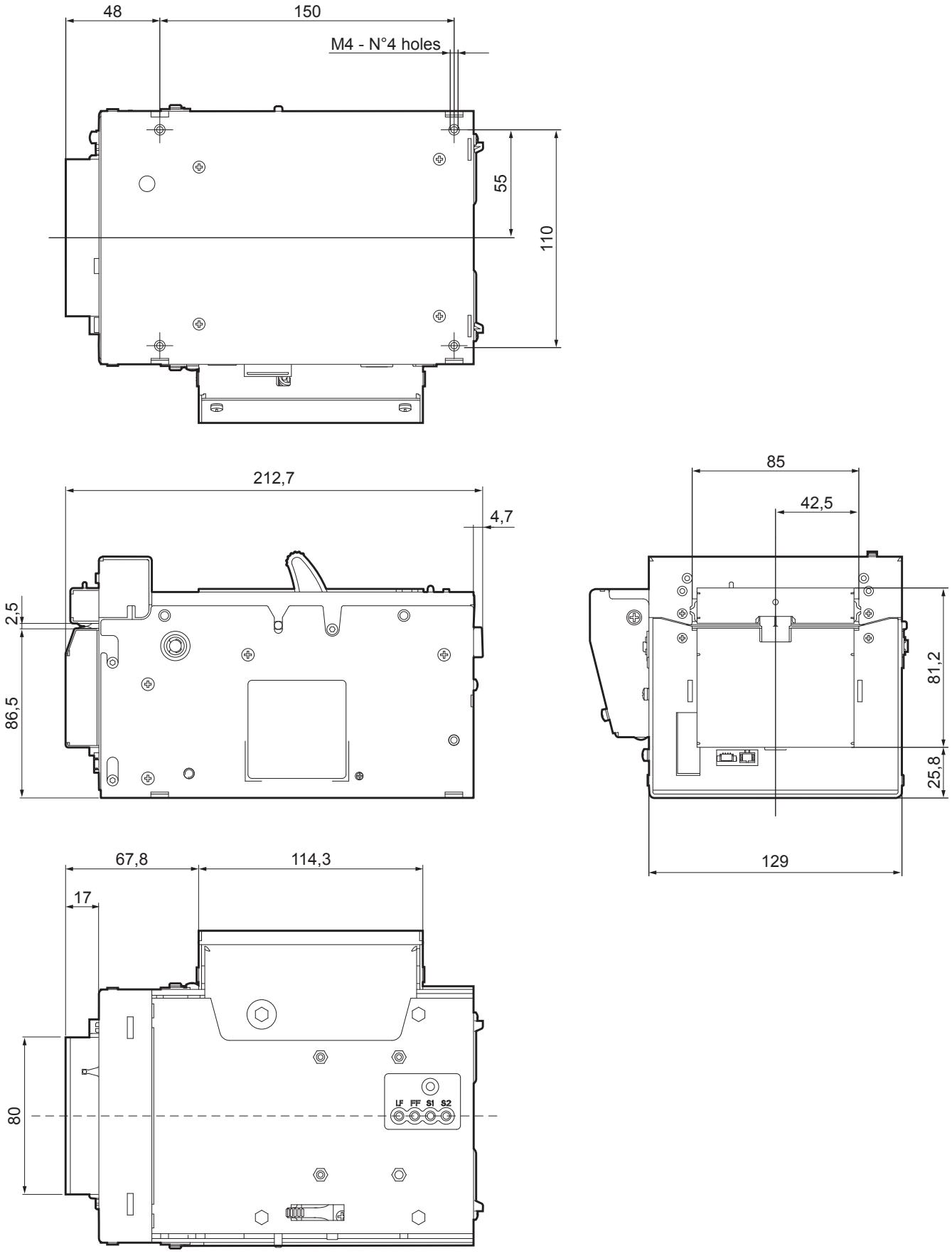




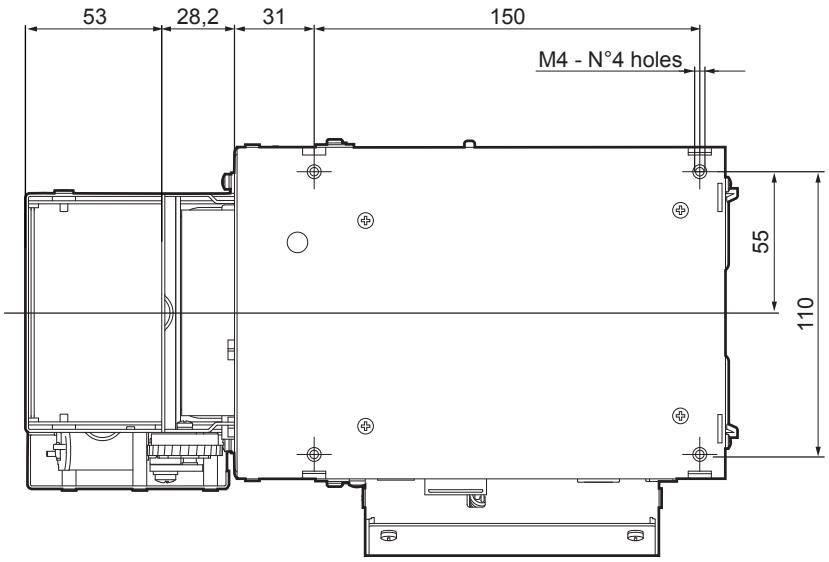


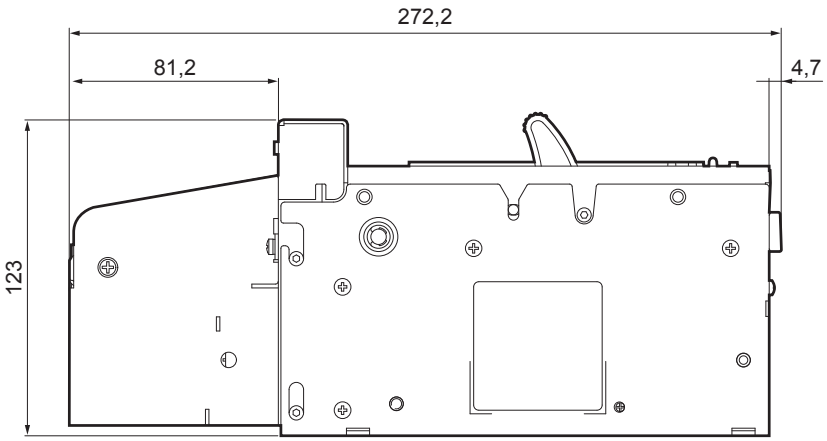


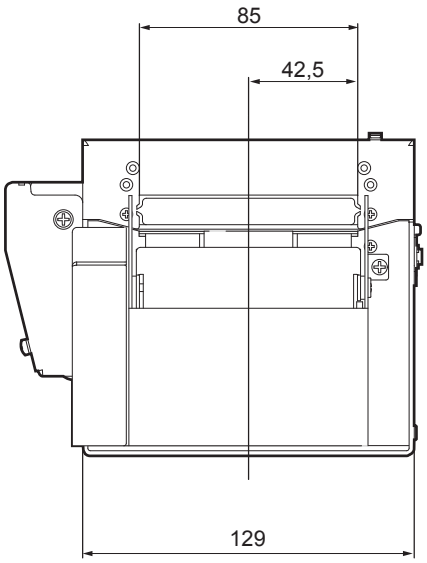
KPM302, KPM303 (models with ejector)

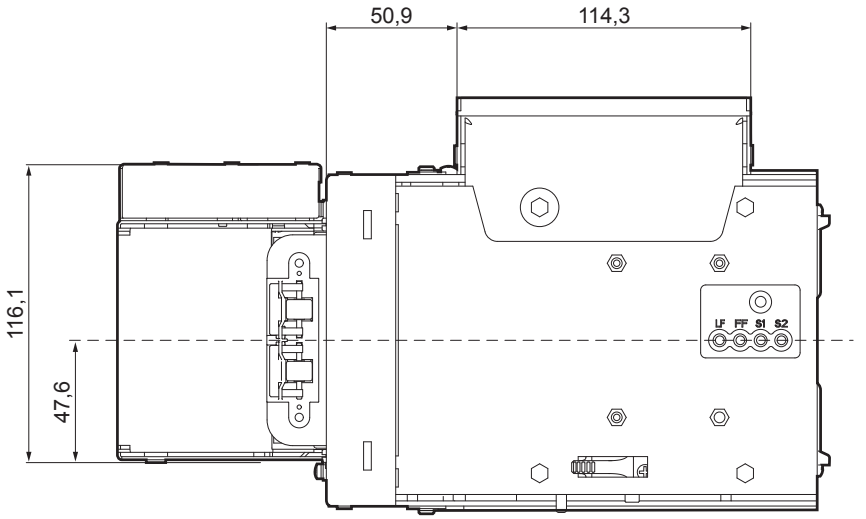


KPM302, KPM303 (models with selector)

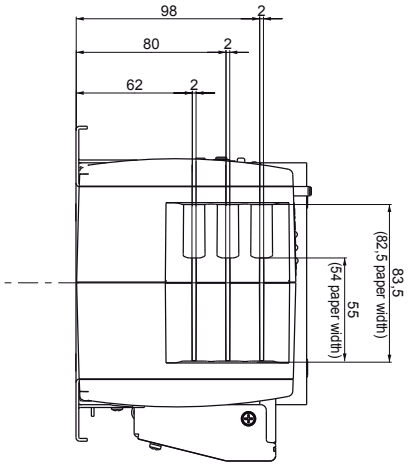


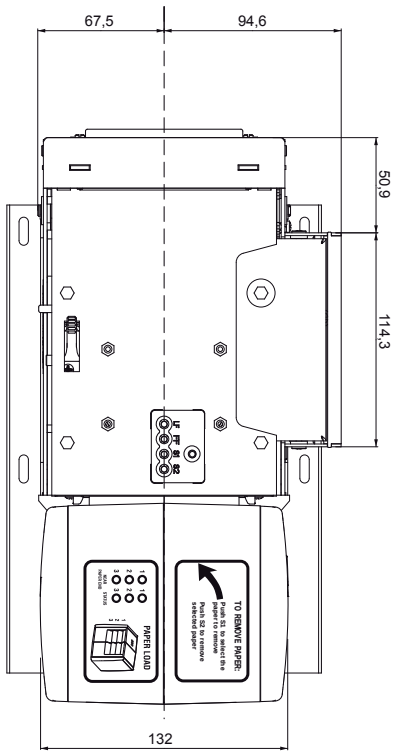


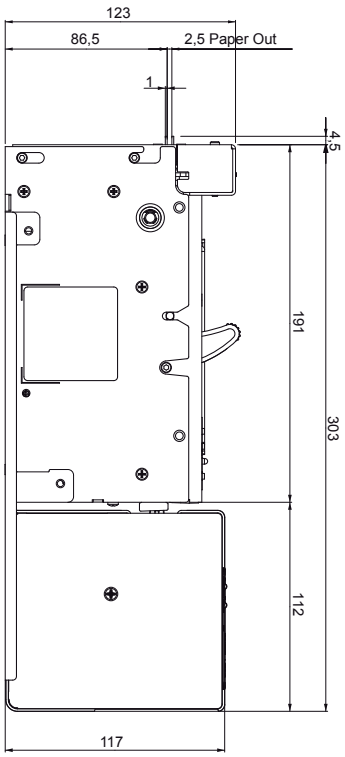


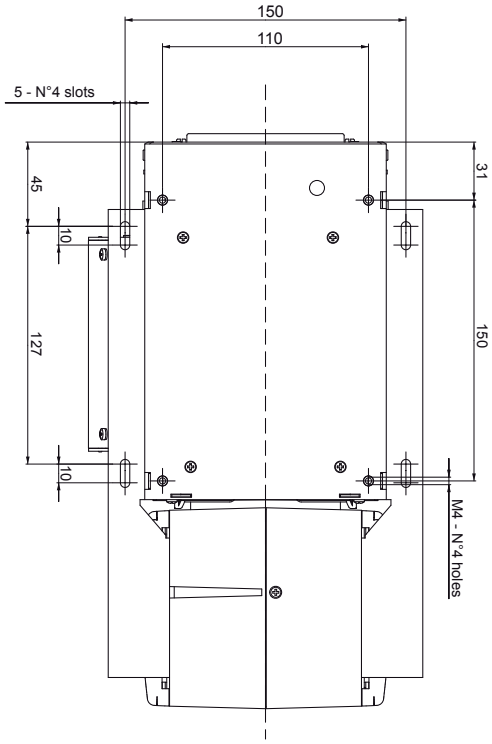


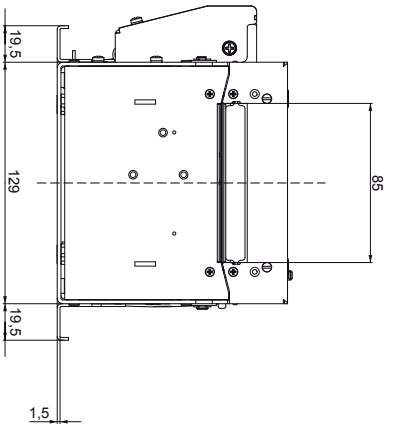
KPM302 (standard models with triple feeder)



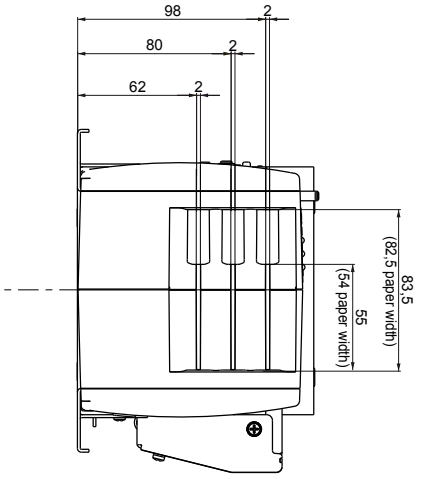


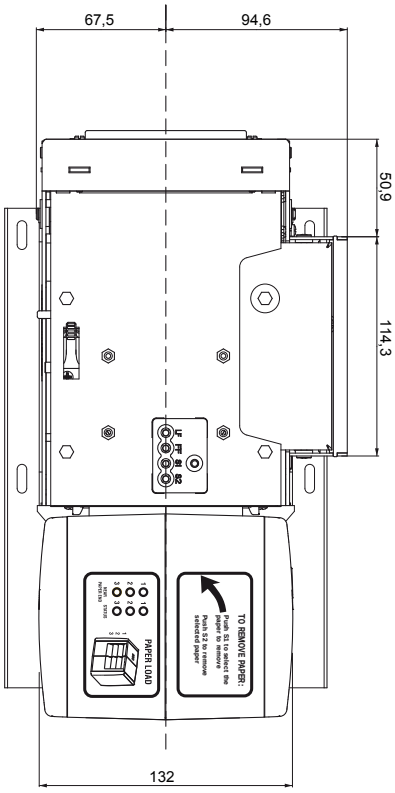


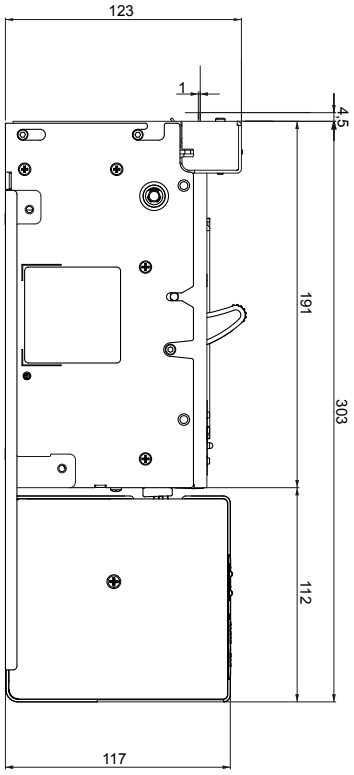


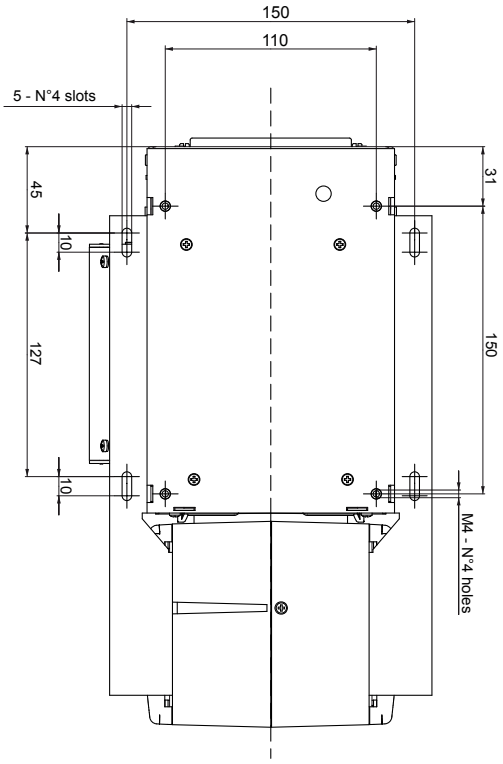


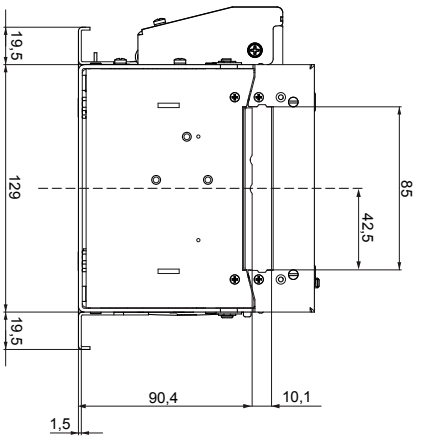
KPM302 (models in the “CUT AND DROP” configuration with triple feeder)



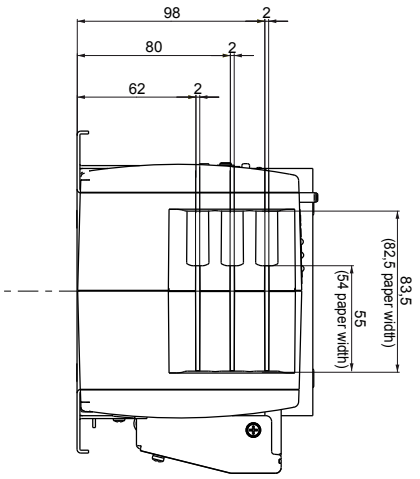


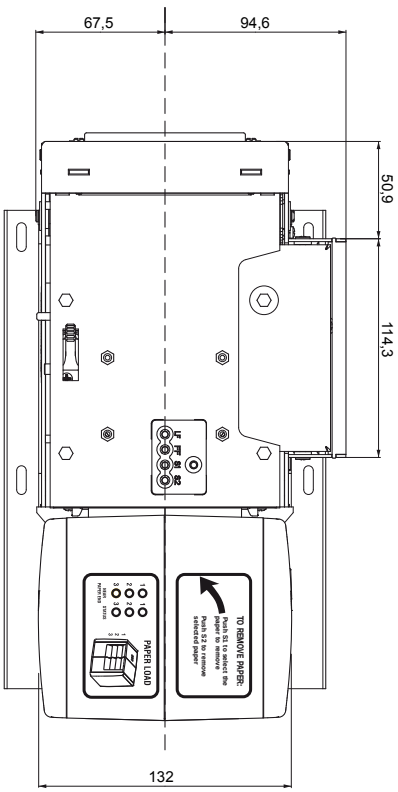


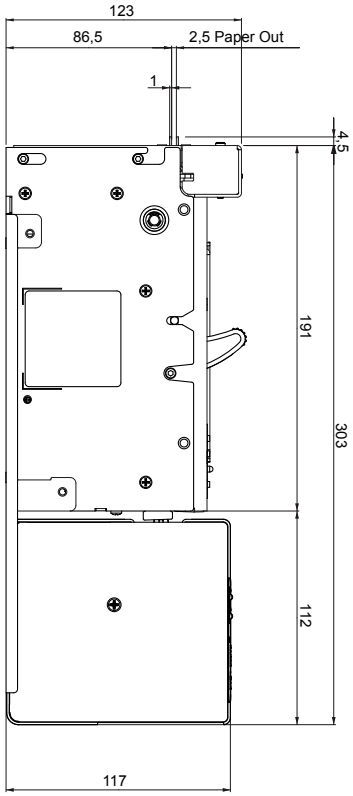


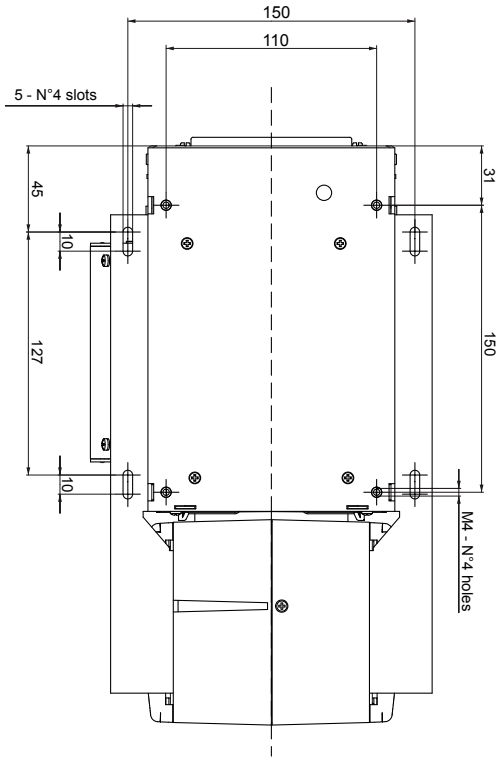


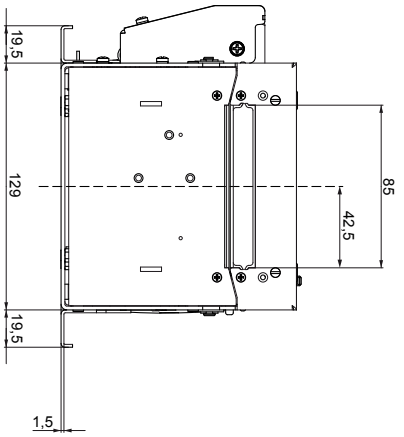
KPM302 (standard models in the “BURSTER” configuration with triple feeder)





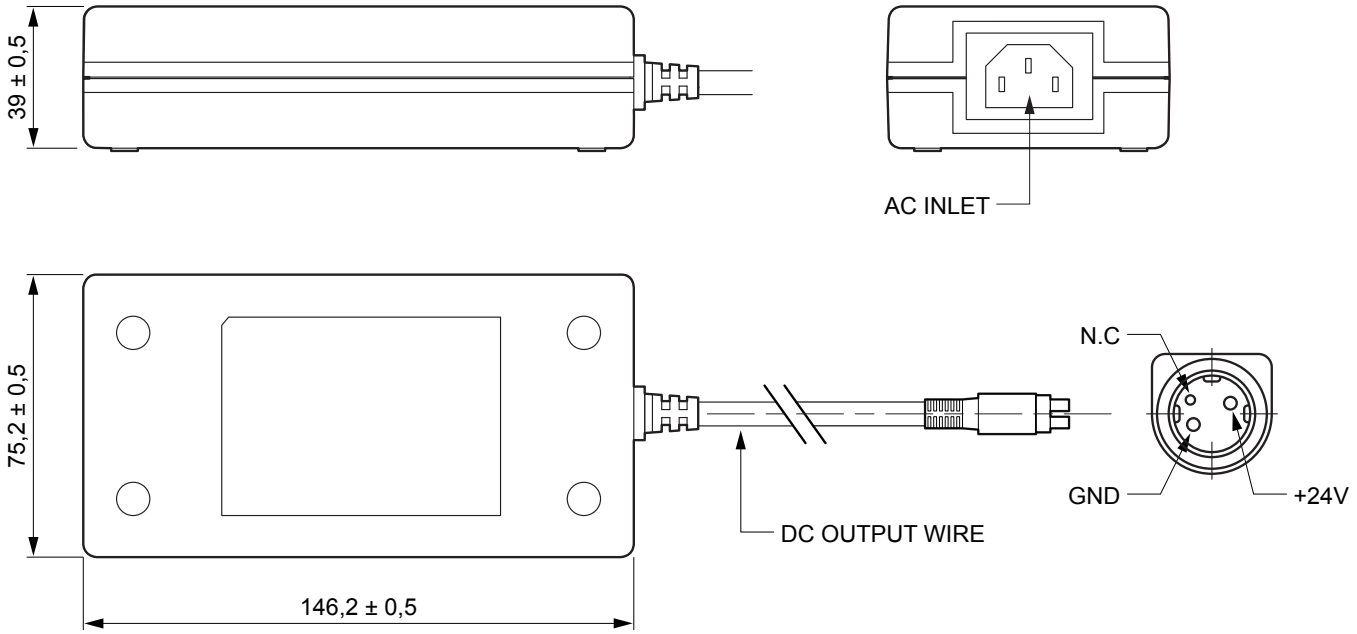






7.6 Power supply dimensions cod.963GE020000004 (optional)

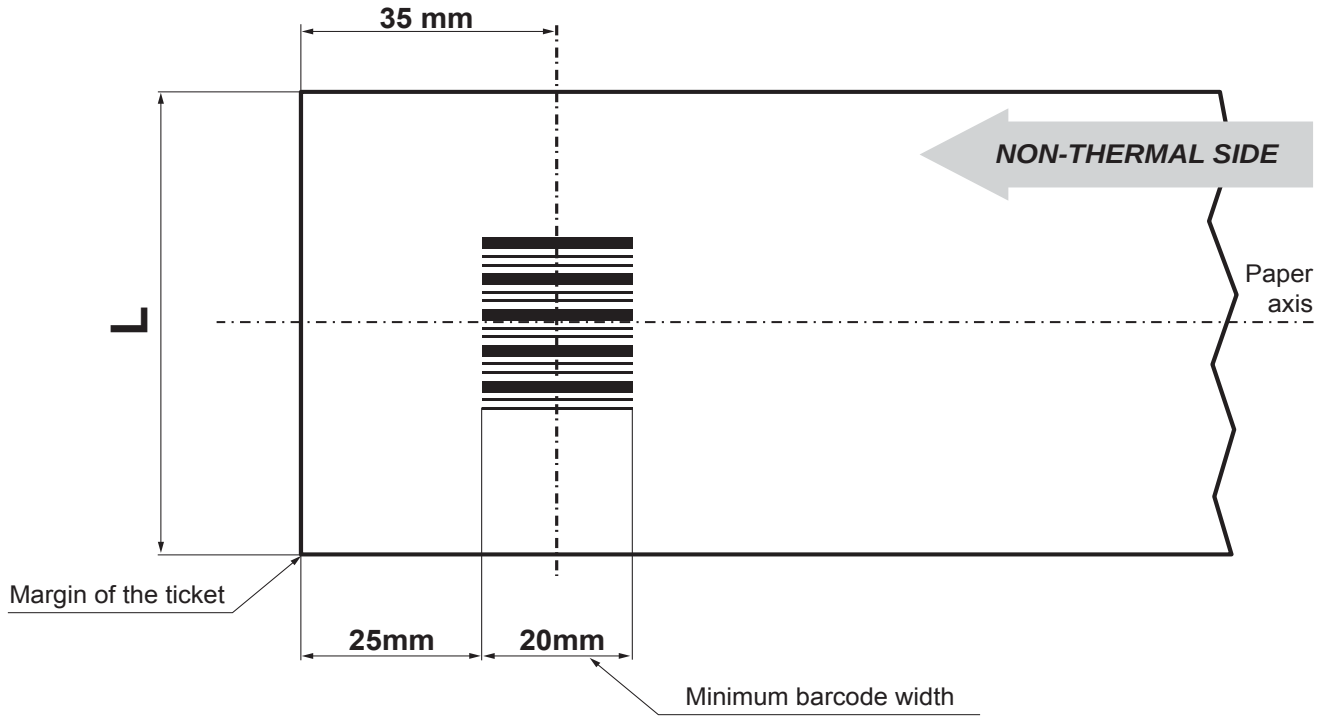
Length	146,2 ± 0,5 mm
Height	39 ± 0,5 mm
Width	75,2 ± 0,5 mm



7.7 Specifications for ticket with barcode

KPM302 (models with one-dimensional barcode reader)
KPM303 (models with one-dimensional barcode reader)

The barcode reader is installed by default in a central position along the longitudinal axis of the printer.
Place the barcode on the non-thermal side of the ticket, 25mm far from the margin to allow a correct reading when the ticket is aligned with the print.
The figure below shows the size of the ticket that the printer can handle in these conditions.

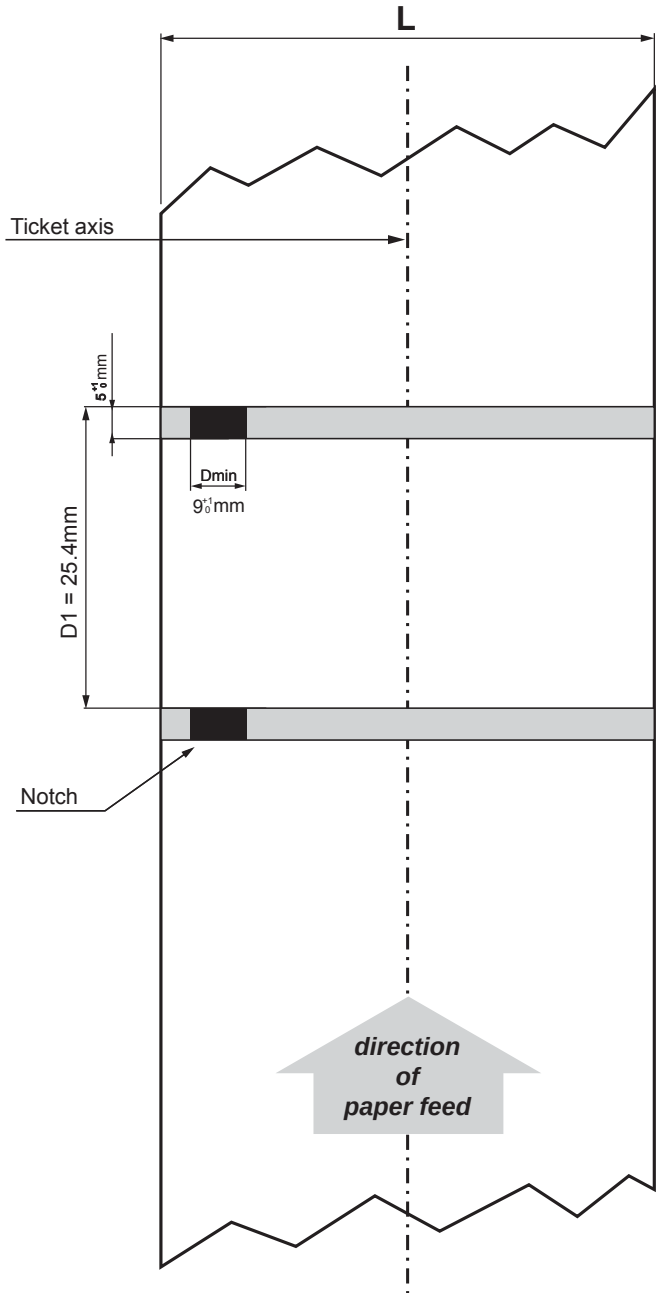


where:
L = paper width used

NOTE:
For the main specification of the reader for one-dimensional barcode, see the technical specifications.

7.8 Specifications for ticket with black mark

Printer is provided with 2 mobile sensors for the notch detection as described in chapter 10.
The following figure shows an example of paper roll with black mark, where:
L = paper width used;
Dmin = minimum notch dimension;
D1 = minimum notch to notch distance.

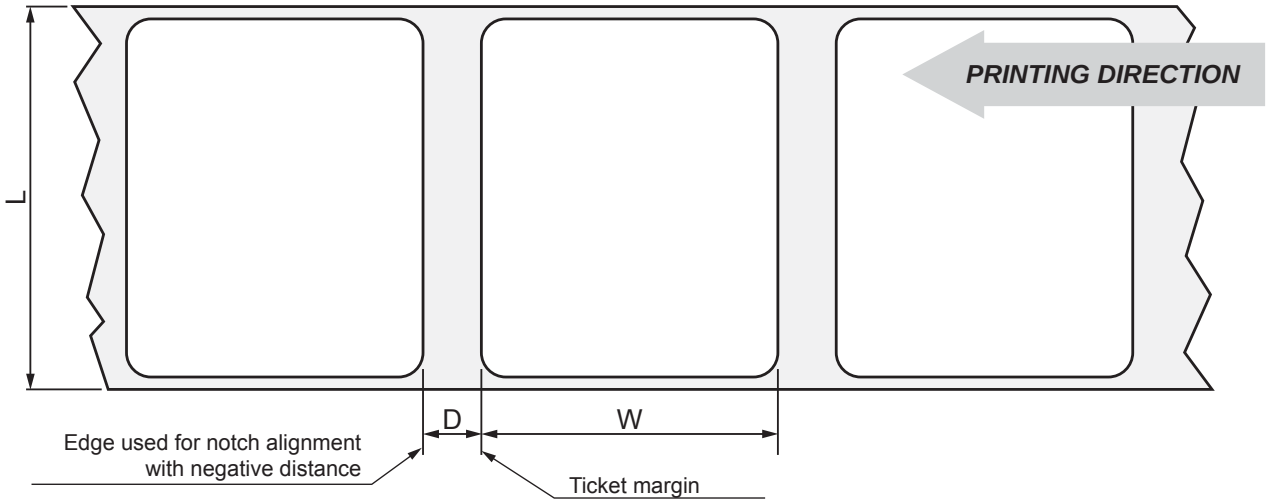


- The black mark can be positioned anywhere across the width of the paper.
- The printer automatically choice the sensor used to detect the paper presence according to the selected notch sensor.
- For a correct alignment, the black mark distance from the margin must be between -5 and 66mm (notch sensor/ print head distance);

7.9 Specifications for ticket with labels

KPM302 (models without triple feeder), KPM303

Paper with labels is managed by setting a negative value for the “Notch Distance” parameter (see chapter 10). The following figure shows an example of paper with labels:

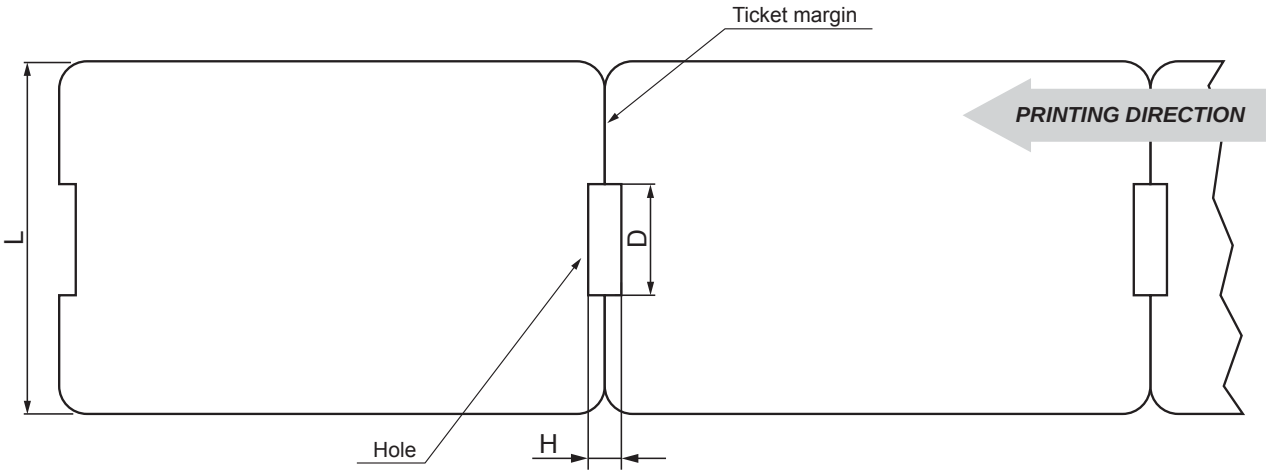


where
L = width of paper used;
W = minimum managed length = 25,4mm (1”).
D = minimum distance between labels (2mm)

7.10 Specifications for ticket with hole

KPM302 (models without triple feeder), KPM303

To use tickets with hole, set the “Notch/B.Mark position” parameter (see printer setup) as “Transparence” value and place both the notch sensors in the gap position, so as to be facing (see par.4.2).
The hole can be positioned across the width of the ticket.
The following figure shows an example for credit card size ticket (84 x 54mm) with central hole:



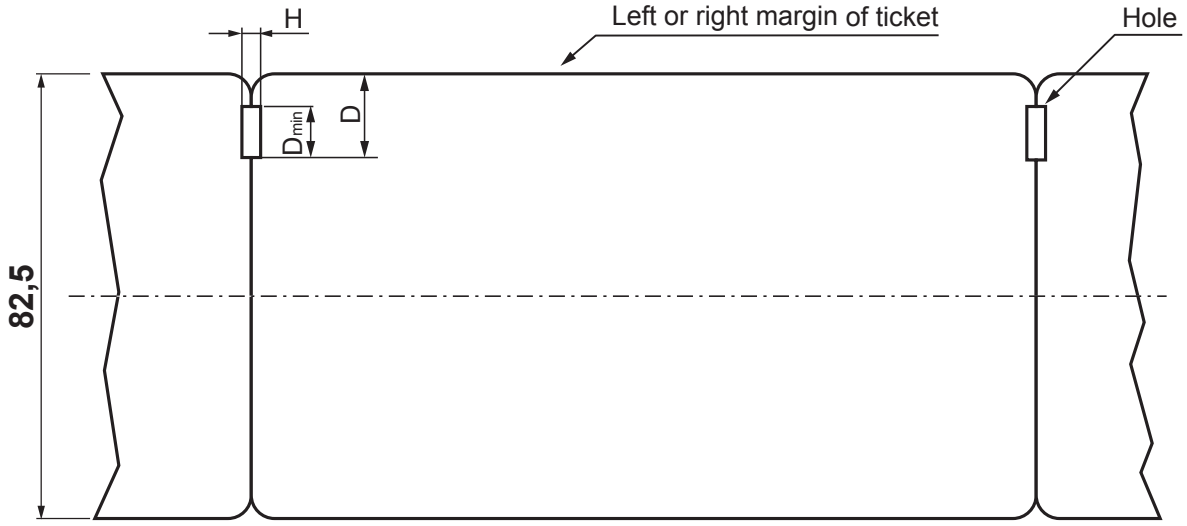
where
L = width of paper used;
H = minimum height of hole (2mm)
D = minimum width of hole (10mm)

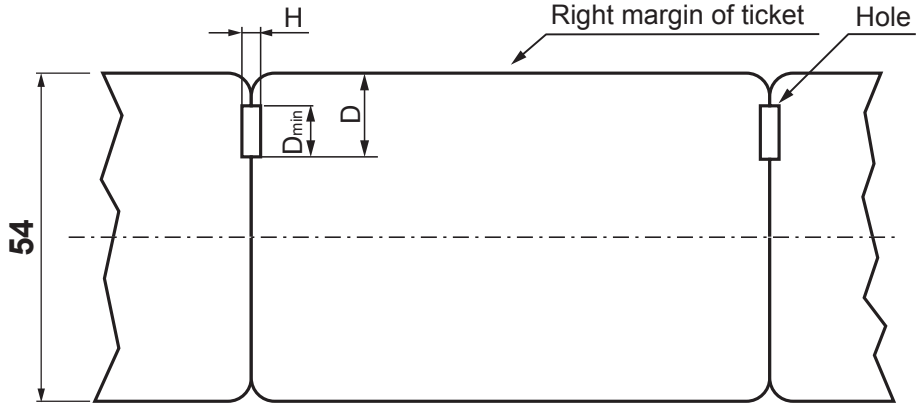
KPM302 (models with triple feeder)

To use ticket with hole, set the “Notch position” parameter (see printer setup) as “Transparence” value and place both the notch sensors in the hole position, so as to be facing.

The hole must be positioned in a lateral position on ticket (see the following figures):

- for paper width = 82,5mm the hole may be positioned both on the left and on the right side of the ticket
- for paper width = 54mm the hole may be positioned only on the right side of the ticket (next to the fixed paper guide)





where

H = minimum height managed (2mm)
Dmin = minimum width (10mm)
D = maximum distance allowed between the edge of the hole and the edge of the ticket (20mm)

7.11 Specifications for ticket with RFID Tag

KPM302 (models with RFID reader)
KPM303 (models with RFID reader)

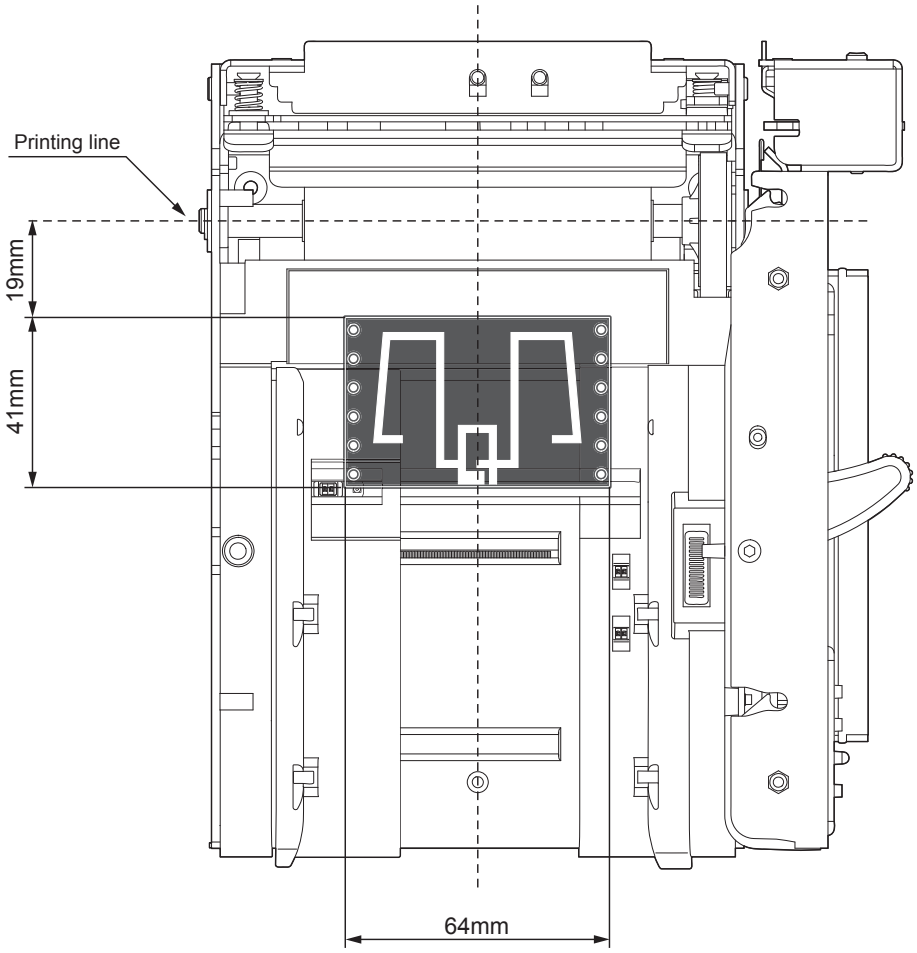
The printer models equipped with RFID reader, manages ticket with RFID Tag. RFID (acronym for Radio Frequency IDentification) is a technology to identify automatically items using radio waves; this system is based on wireless data capture from RFID tag using appropriate readers. The RFID tag, or transponder, is made up of :

- the microchip that stores the data (including also a unique serial number written);
- an RFID antenna.

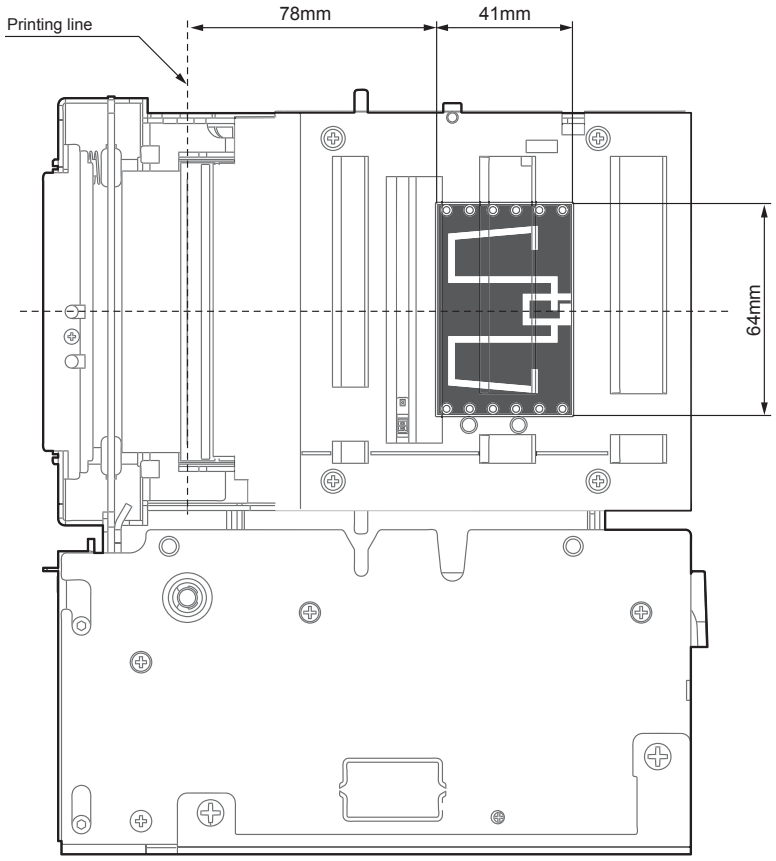
An RFID transceiver module is mounted inside the printer, provided with antenna, that allows to send and receive RF data to and from the tag. For this application the ticket dimensions are not binding but for good reading is important that the tag inside the ticket, after alignment, intersects the antenna area.

The following figures show the available positions of antenna RFID inside the printer.

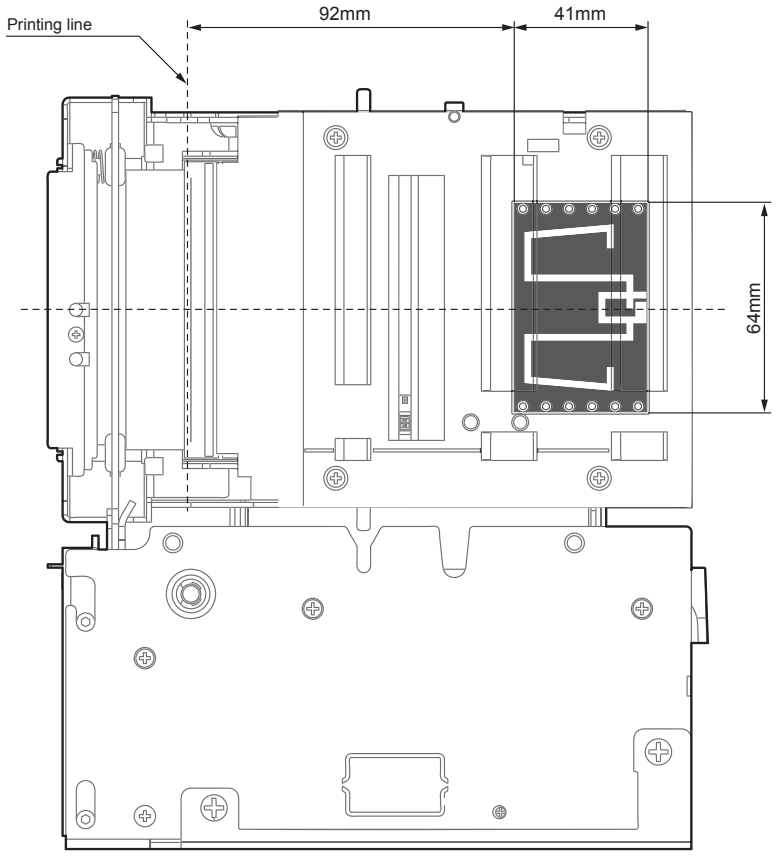
Position 1 (lower plastic flat)



Position 2 (upper plastic flat)

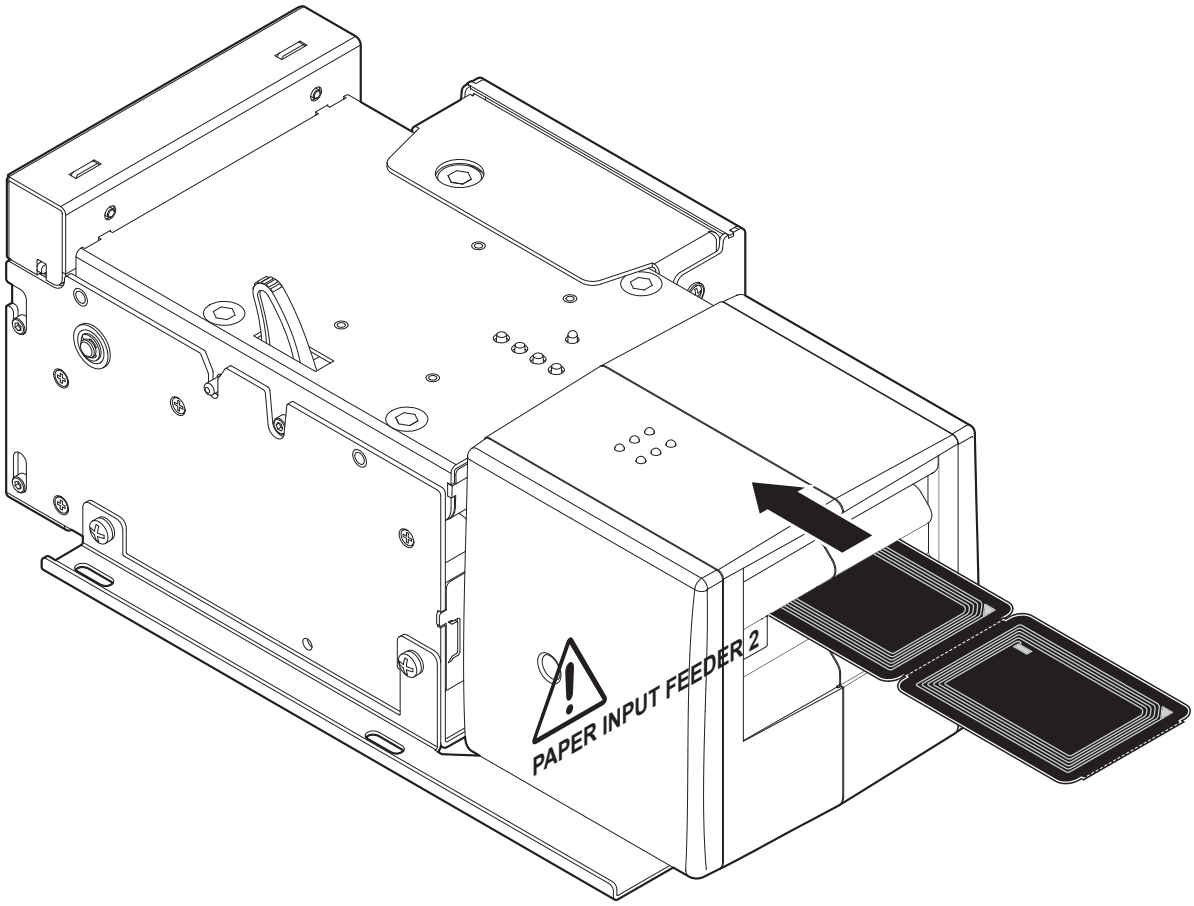


Position 3 (upper plastic flat)



KPM302 (models with triple feeder and RFID reader)

It is possible to load ticket with RFID tag only into the central feeder, as shown in following figure.



7.12 Character sets in ESC/POS™ emulation

The printer has 3 embedded fonts of varying width: 11, 15, 20 cpi for the 200 cpi model and 16, 23, 60 cpi for the 300 dpi model.
Each of these fonts offers the following code tables: PC437, PC850, PC860, PC863, PC865, PC858.

PC437 CODE TABLE (Usa, Standard Europe)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	¢	£	¥	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	ⁿ	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC850 CODE TABLE (Multilingual)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Ð	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC860 CODE TABLE (Portuguese)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	Í	Ô	ì	Ã	Â
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	À	È	ô	ö	ò	Ú	ù	Ì	Õ	Ü	¢	£	Ù	Pts	Ó
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	Ò	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	▒	▒	▓	|	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	2	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC863 CODE TABLE (Canadian, French)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	Â	à	¶	ç	ê	ë	è	ï	î	‗	À	§
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	È	Ê	ô	Ë	Ï	û	ù	¤	Ô	Ü	¢	£	Ù	Û	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	¦	´	ó	ú	¨	¸	³	¯	Î	⌐	¬	½	¼	¾	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC865 CODE TABLE (Nordic)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	¤
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	2	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC858 CODE TABLE (Euro symbol)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Ð	Ê	Ë	È	€	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

NOTE: To print the Euro (€) symbol, the command sequence is: $1B, $74, $13, $D5 (see Command Reference).

In ESC/POS™ emulation, it is possible to use TrueType fonts. To be used, a TrueType font must be monospace type (every character of the font must have the same dimension). The check is made by the printer when the font is selected. TrueType fonts will be automatically scaled by the printer in order to obtain the same available width for the embedded fonts (11, 15 and 20 cpi for the 200dpi model and 16, 23 and 30 cpi for the 300dpi model).

The quality of TrueType fonts and the correct positioning into the printable area will result from the font producers and the font implementation.
The available code tables are : PC437, PC850, PC860, PC863, PC865, PC858, PC866, PC852, WPC1252.

For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character.
All commands for printing configuration are usable both with TrueType fonts and with embedded fonts.
It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.

7.13 Character sets in SVELTA emulation

In SVELTA emulation the printer has 20 embedded fonts of varying width which may be accessed through control characters (see commands description in SVELTA emulation of Command Reference). The following list shows the font available and relative dimensions in dot:

• Font HEL8PT8 (A)	Proportional Font with fixed height (H = 28 dot)
• Font HEL10PT8 (A)	Proportional Font with fixed height (H = 34 dot)
• Font HEL14PT8 (A)	Proportional Font with fixed height (H = 50 dot)
• Font HEL16PT8 (A)	Proportional Font with fixed height (H = 55 dot)
• Font 18x24	(Font 18x24 in ESC/POS emulation)
• Font 14x24	(Font 14x24 in ESC/POS emulation)
• Font 10x24	(Font 10x24 in ESC/POS emulation)
• Font 8x12 (B)	Fixed Font
• Font 8x12-2 (B)	Fixed Font
• Font 12x12 (B)	Fixed Font
• Font 14x11 (B)	Fixed Font
• Font 16x24 (B)	Fixed Font
• Font 16x24_1 (B) (C)	Fixed Font
• Font 16x24_2 (B) (C)	Fixed Font
• Font 20x15 (B)	Fixed Font
• Font 28x20 (B)	Fixed Font
• Font 14x24_1 (B) (C)	Fixed Font
• Font 16x24CN (B) (C)	Fixed Font
• Font OCRB (20x32) (B)	Fixed Font

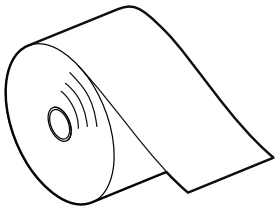
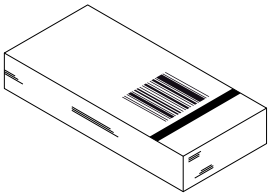
For further informations to characters representations print directly the Font Test(D).

NOTES:
(A) A proportional font is a font in which different characters have different pitches (widths).
(B) A fixed font is the opposite of a proportional font and is a fixed-pitch font.
(C) The fonts with the same name and dimension contain different characters in different positions from theirs.
(D) During power-up, if the FORM FEED (FF) key is held down, the printer executes the FONT TEST.

In SVELTA emulation, it is possible to use TrueType fonts. True Type fonts are printable with every angle of rotation and in bold, reverse, italic and underlined mode.
It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.
For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character.

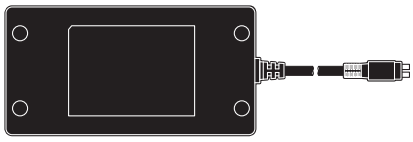
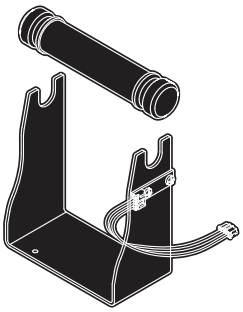
8 CONSUMABLES

The following table shows the list of available consumables for device:

DESCRIPTION	CODE
THERMAL PAPER ROLL weight = 165g/m^2 width = 80mm Ø external = 180mm Ø core = 25mm	**67300000000385** 
THERMAL FANFOLD MODULE weight = 255g/m^2 dimensions = 155mm x 65mm	**67A00000000305** 

9 ACCESSORIES

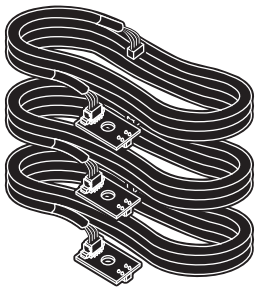
The following table shows the list of available accessories for device:

DESCRIPTION	CODE
KPM302, KPM303	
POWER SUPPLY ADAPTER CABLE (see paragraph 9.2)	**26600000000348**
POWER SUPPLY ADAPTER CABLE WITH ON/OFF SWITCH (see paragraph 9.2)	**26600000000349**
POWER SUPPLY (for technical specifications, see paragraphs 7.1 and 7.6)	**963GE020000004** 
PAPER ROLL HOLDER (see paragraph 9.1)	**974AU010000305** 

KPM302 (models with triple feeder)

26300000000453

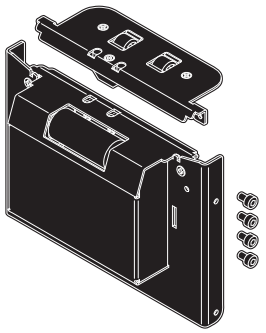
WIRINGS KIT WITH NEAR PAPER END SENSORS
(see paragraph 9.3)



KPM302, KPM303 (standard models)

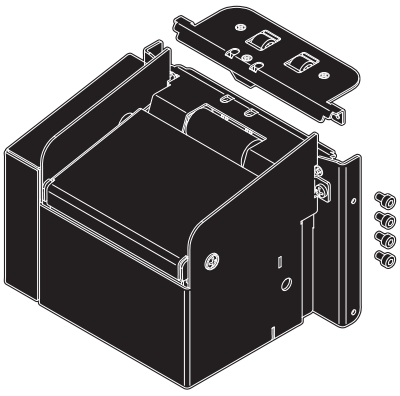
976AU010000317

EJECTOR DEVICE



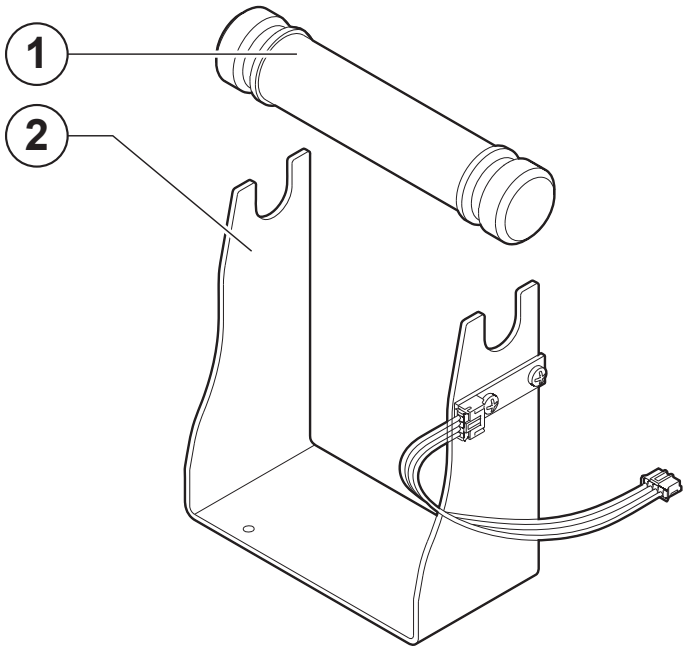
976AU010000318

SELECTOR DEVICE



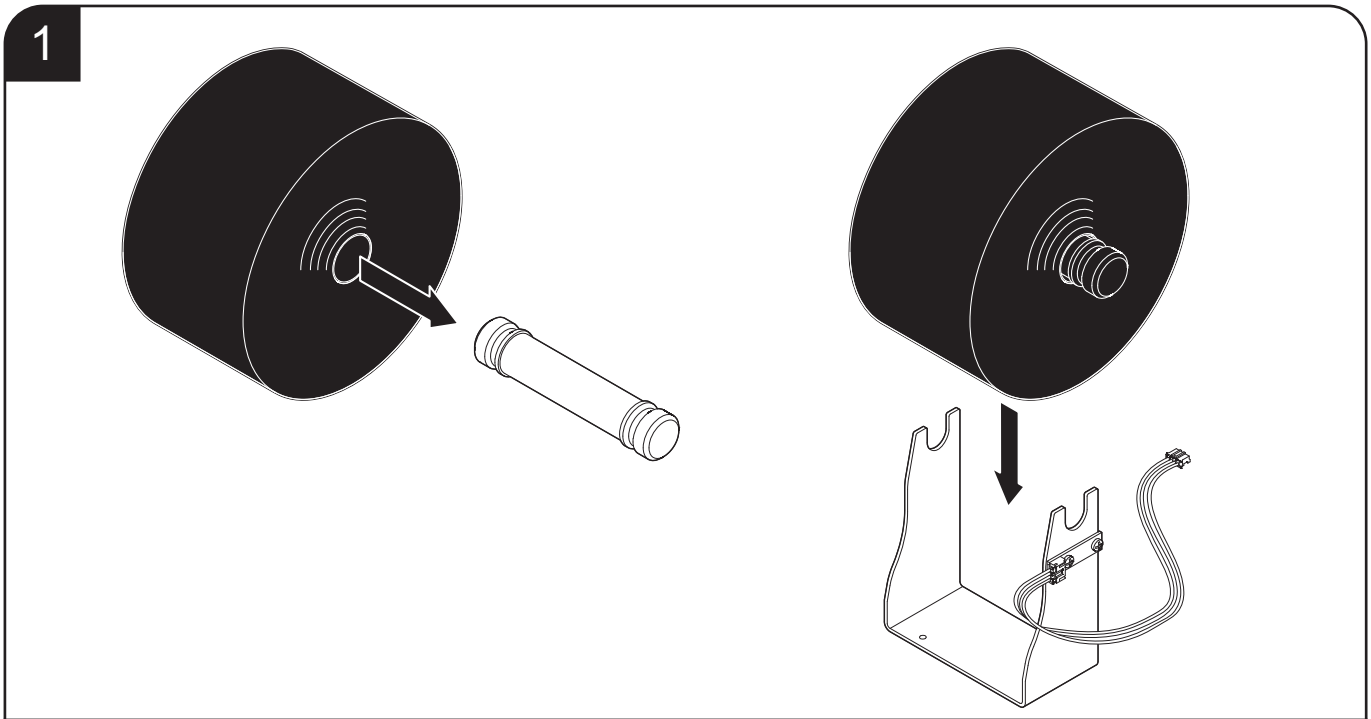
9.1 Paper roll holder

For the device is available an external paper roll holder kit (cod.974AU010000305) supplied as an accessory. The kit makes it possible to use paper rolls with larger diameter (Øext.150mm max).
The kit includes:
1. Paper roll pin.
2. Paper holder support with near paper end sensor.



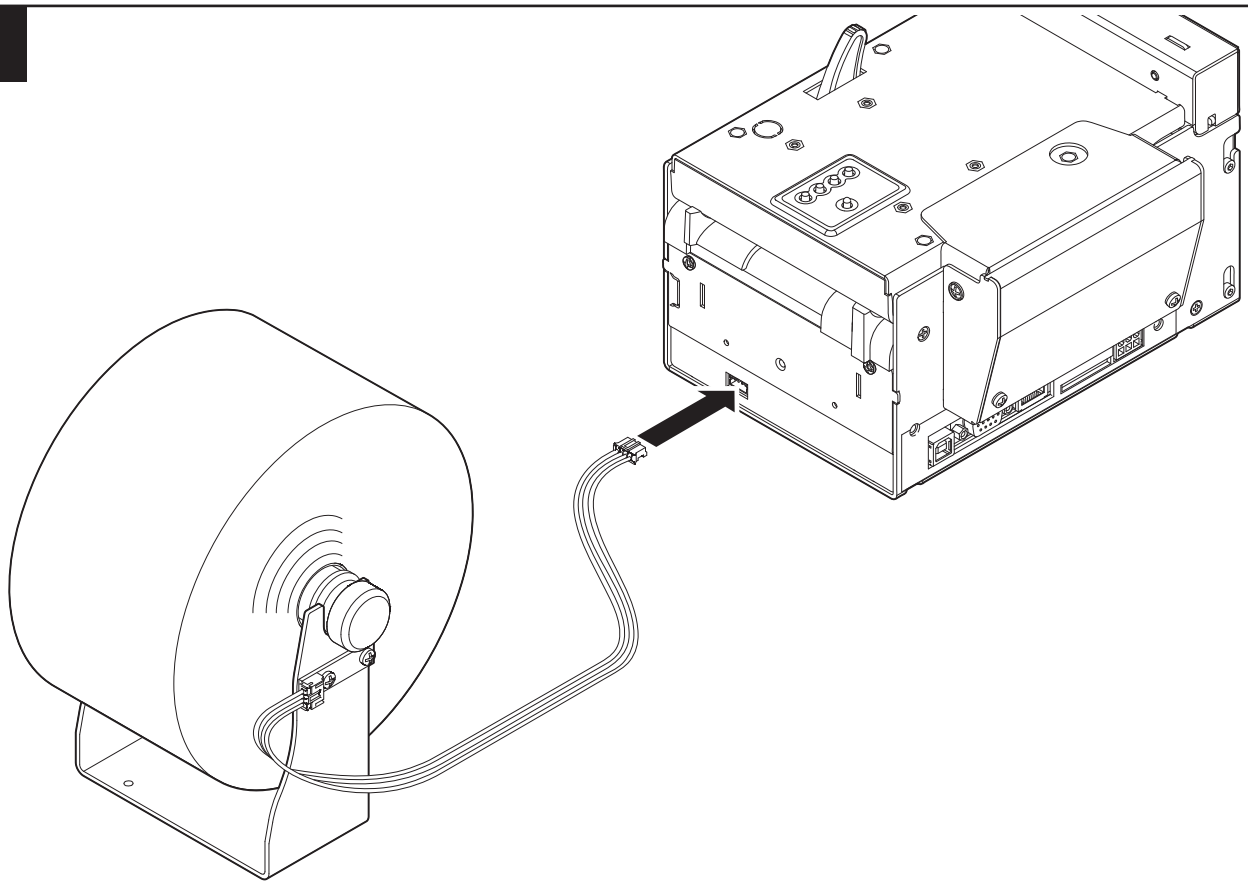
To assemble the roll holder to the device, proceed as follows:

KPM302, KPM303



Insert the pin in the paper roll and then
put the asembled roll on the support.

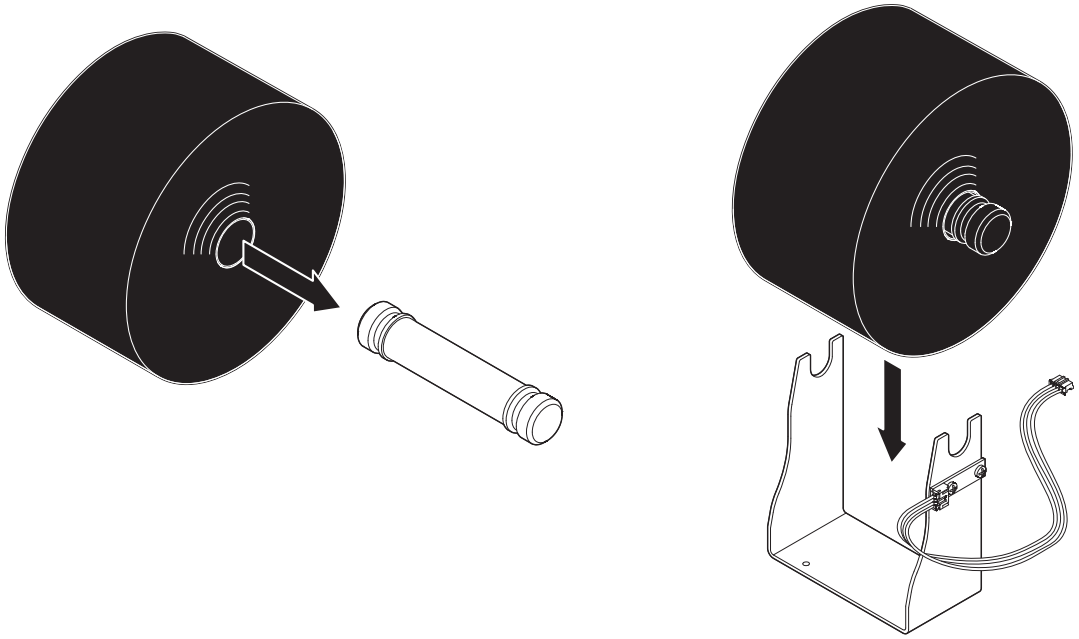
2



Connect the near paper end sensor with printer.

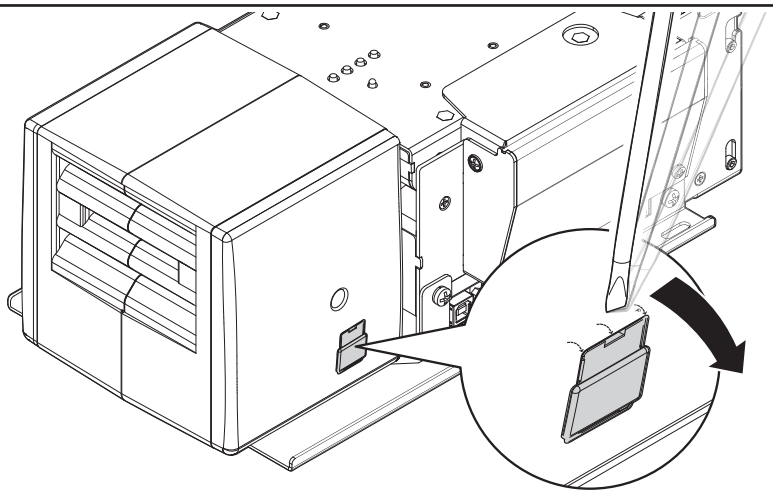
KPM302 (models with triple feeder)

1



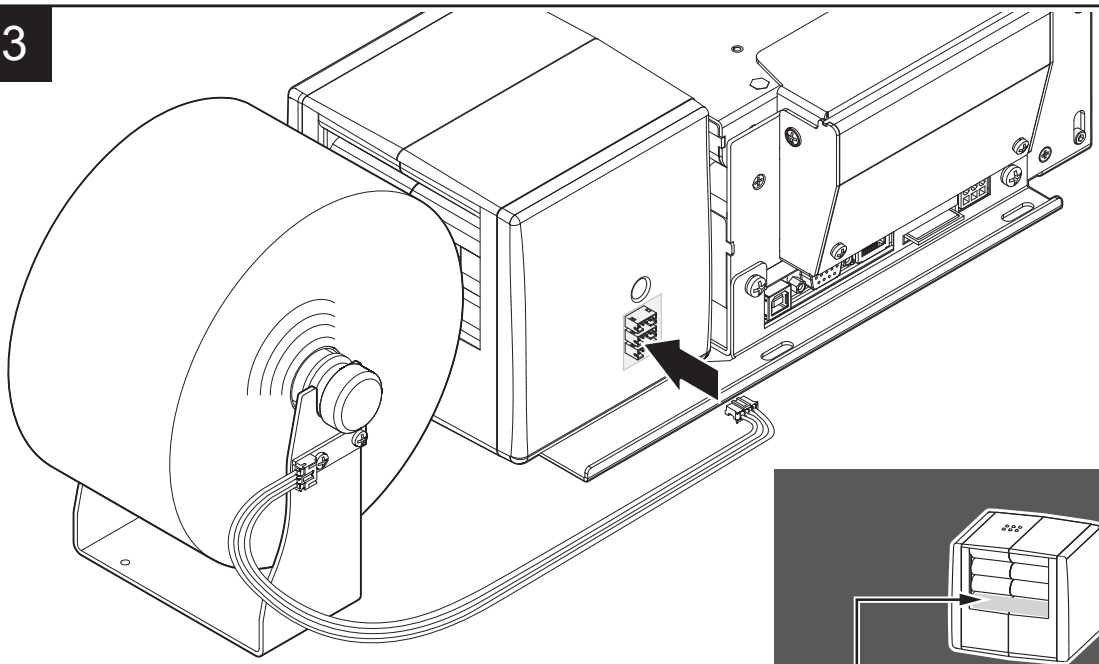
Insert the pin in the paper roll and then
put the asembled roll on the support.

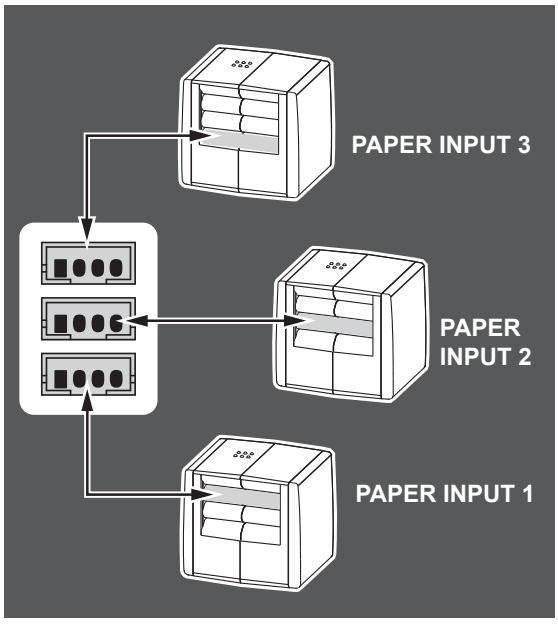
2



Remove the cover for the triple feeder connectors
by levering with a small slotted head screwdriver.

3

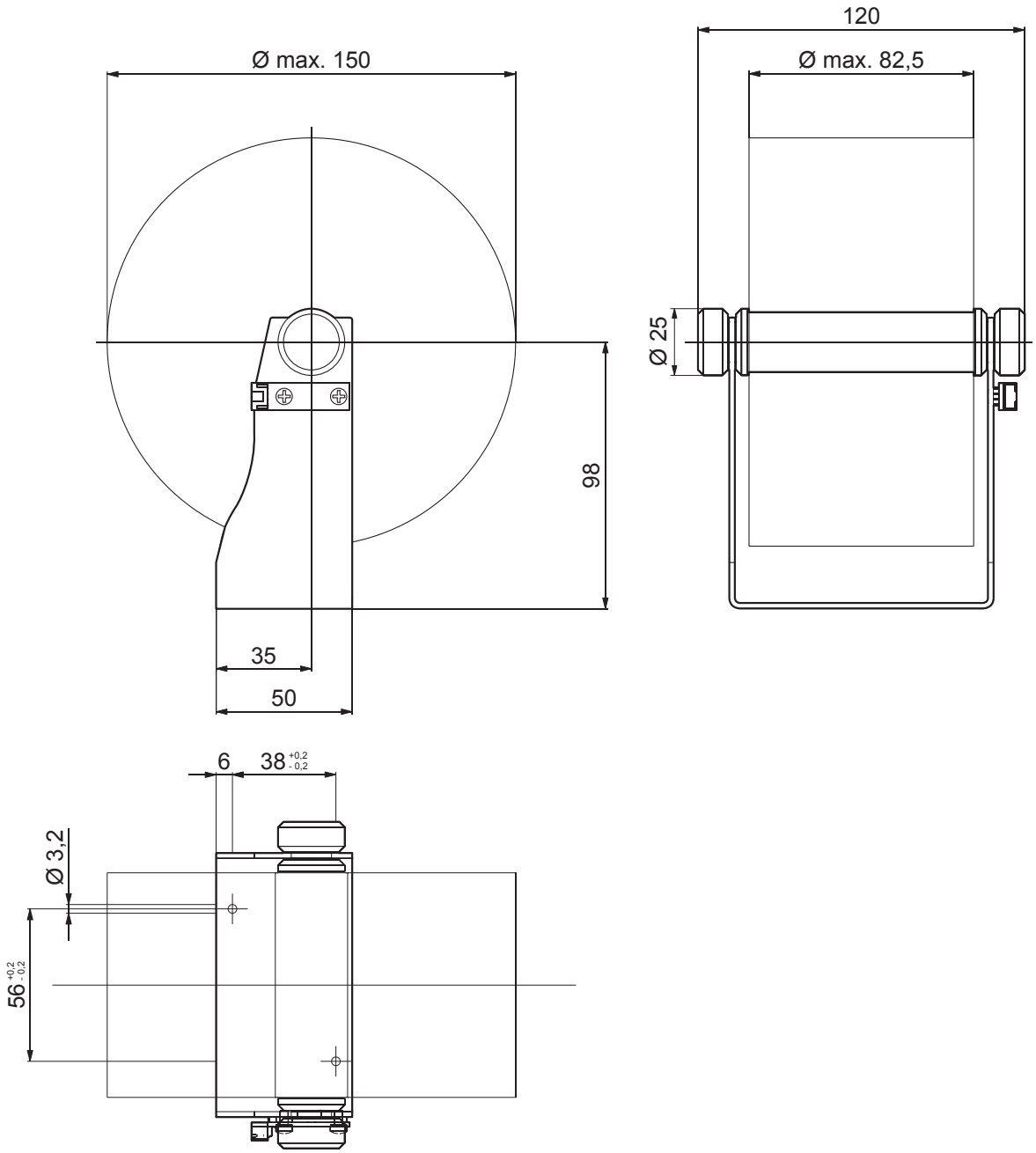




Connect the near paper end sensor to the triple feeder
by inserting the wiring in the relative connector of the paper input that is used.

NOTE:
To load paper referred to the instructions indicated in the paragraph 4.4 of this manual.

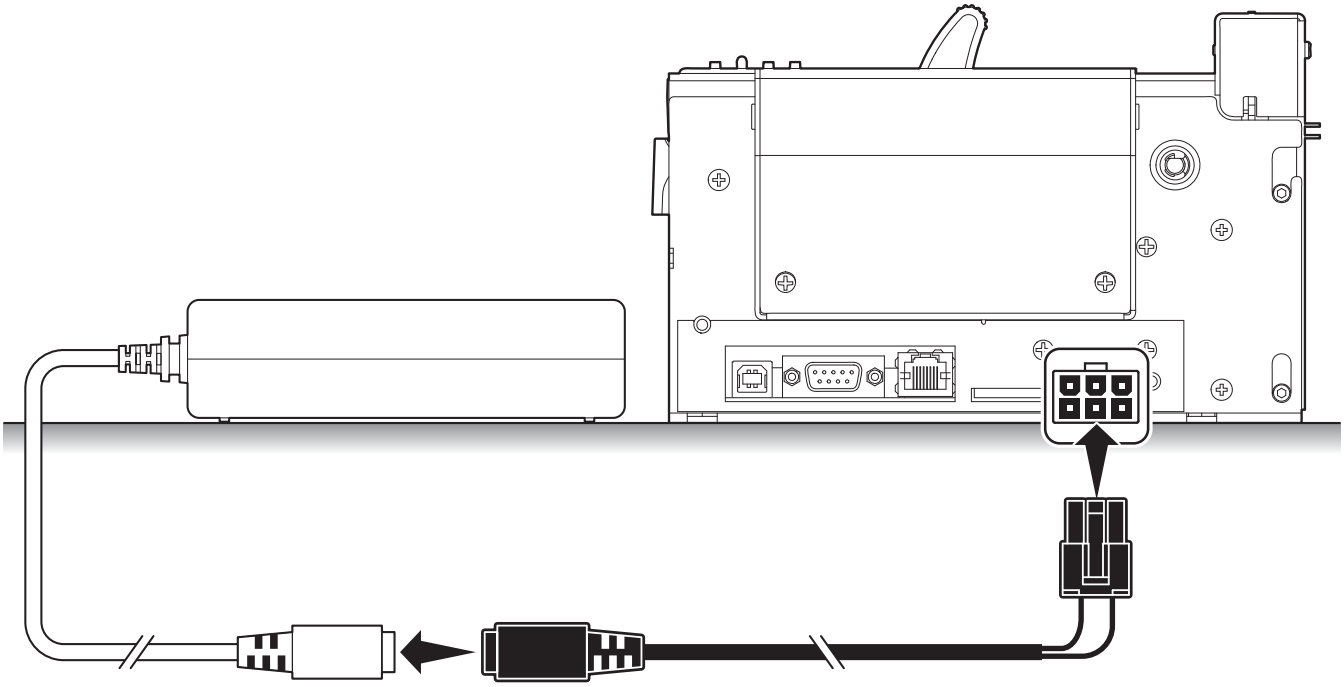
Paper roll holder dimensions and paper roll specifications (in mm)



NOTE:
For external rolls diameter higher to 100mm it's recommended to use a paper pre-tensioning device.

9.2 Adapter cable for power supply

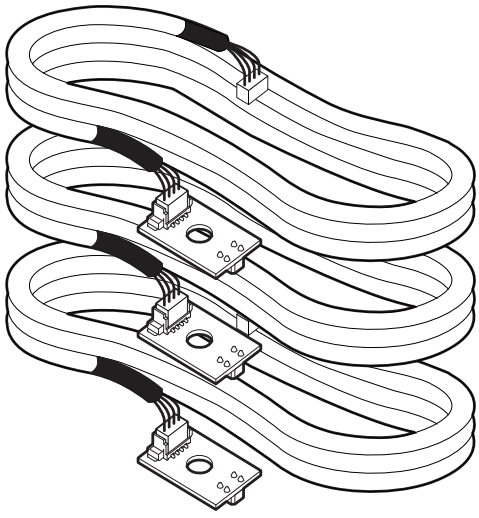
For the device are available two adapter cables supplied as accessory, for connecting the printer to the external power supply unit (cod. 963GE020000004 - optional):
- cod.26600000000348 : adapter cable
- cod.26600000000349 : adapter cable with ON/OFF switch



9.3 Wirings kit with near paper end sensors (for models with triple feeder)

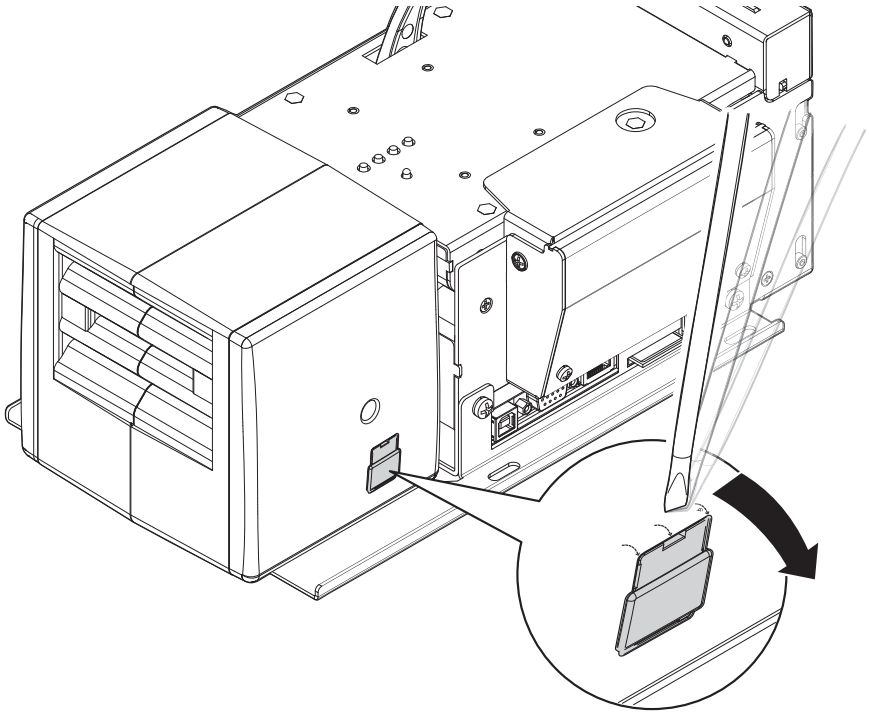
KPM302 (models with triple feeder)

For the device is available a kit of wirings with near paper end sensor 26300000000453 (supplied as an accessory). The kit makes it possible the connection between triple feeder and near paper end sensors.
The kit includes three wirings assembled with three near paper end sensors boards, as shown in following figure:



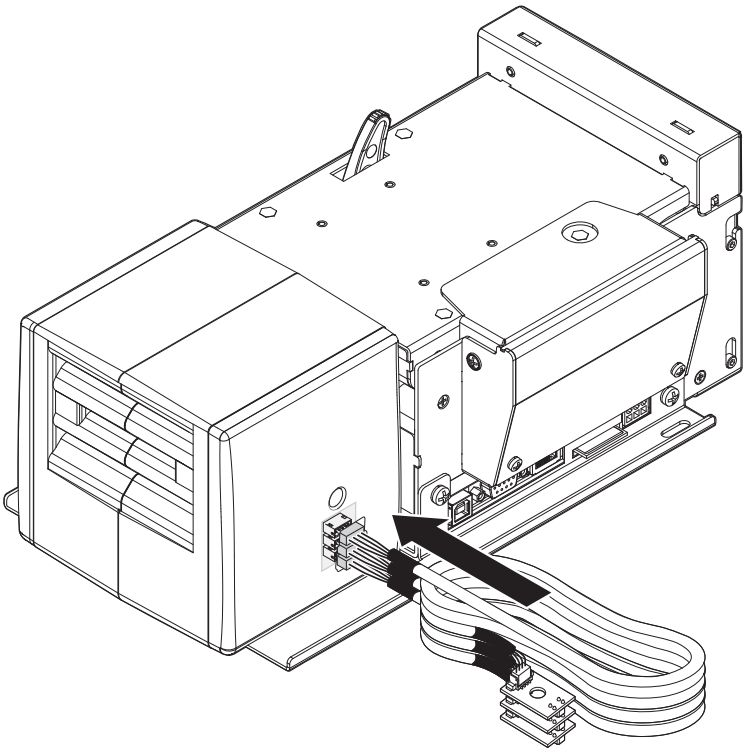
ASSEMBLY INSTRUCTIONS

1



Remove the cover for the triple feeder connectors
by levering with a small slotted head screwdriver.

2



Connect the three wirings to the connectors board of triple feeder.

10 ALIGNMENT

Device is provided with sensors for the use of alignment notch in order to handle:
- roll of tickets with pre-printed fields and a fixed length;
- Fan-Fold module of tickets with pre-printed fields and a fixed length.

The alignment notch may be formed by
- black mark printed on paper (see par.7.8);
- hole between two tickets (see par.7.10);
- gap between two labels (for models without triple feeder, see par.7.9).

All alignment sensors are “reflection” sensors: this kind of sensor emits a band of light and detects the quantity of light reflected to it.
The presence of the notch is therefore detected by the amount of light that returns to the sensor, considering that the light is reflected by the white paper and absorbed by the black mark.

To use tickets with holes or labels with gap, it is possible to use the same sensors as “transparence” sensors, coupled two by two: a beam of light is emitted by the transmitter sensor and the quantity of light which reaches the opposite receiver sensor is detected.
The presence of the hole/gap is detected evaluating the amount of light that arrives to the opposite sensor, considering that the paper doesn’t allow the beam of light to reach the receiver, whereas a gap or a hole lets the light to reach the receiver.

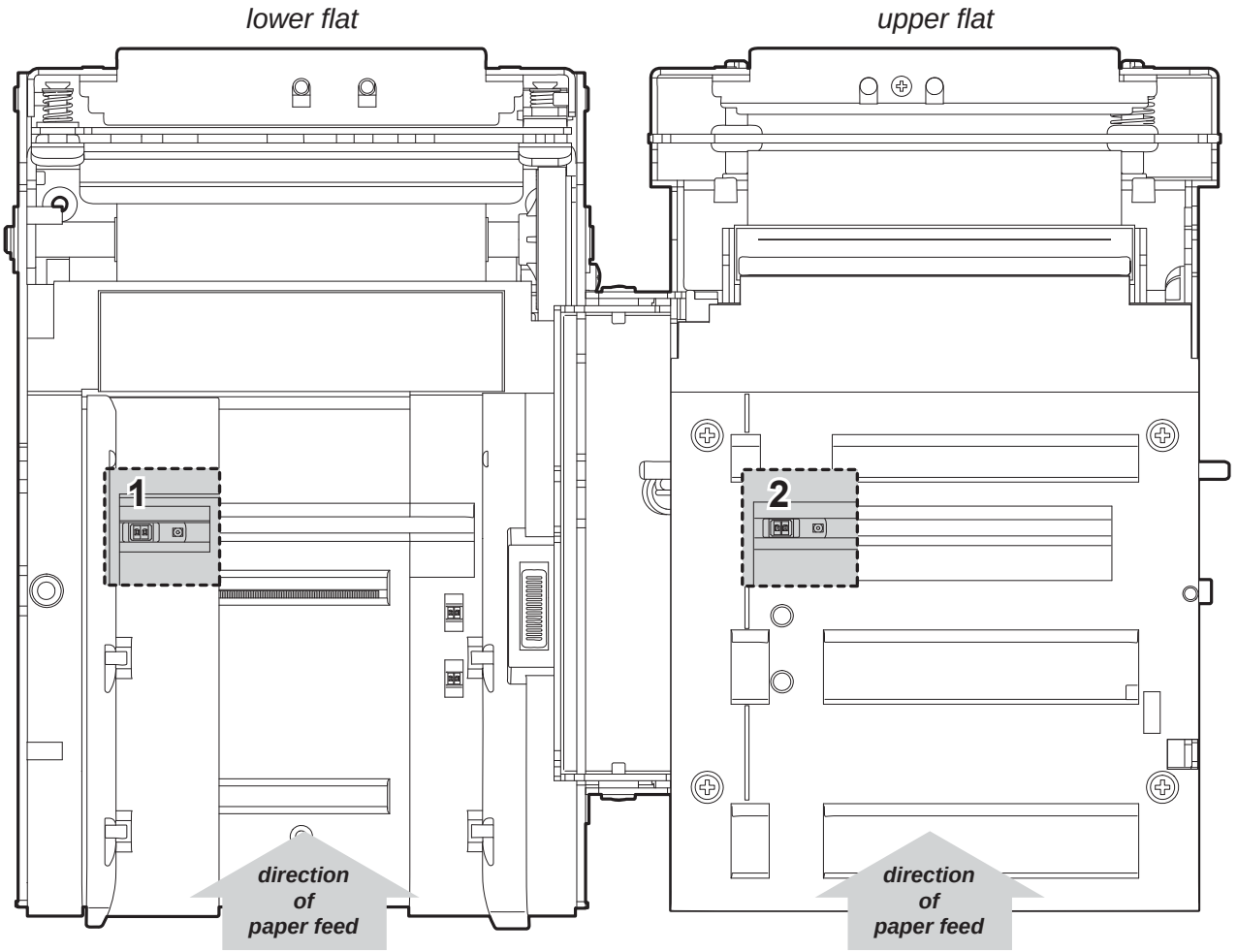
The following paragraphs show how to correctly set the configuration parameters of device in order to assure the alignment.

10.1 Enable alignment

Printer is provided with two mobile sensors for alignmentment, placed as follows:
- one sensor on the lower flat of printer
- one sensor on the upper flat of printer.

To guarantee the alignment, it is necessary to correctly choose the sensor to use for the notch detection depending on the type of notch and its location on the ticket.
To do this, you must enable the parameter “Notch/B.Mark Position” during the Setup procedure (see chapter 5) and set the correct value of this parameter as described in the following table.

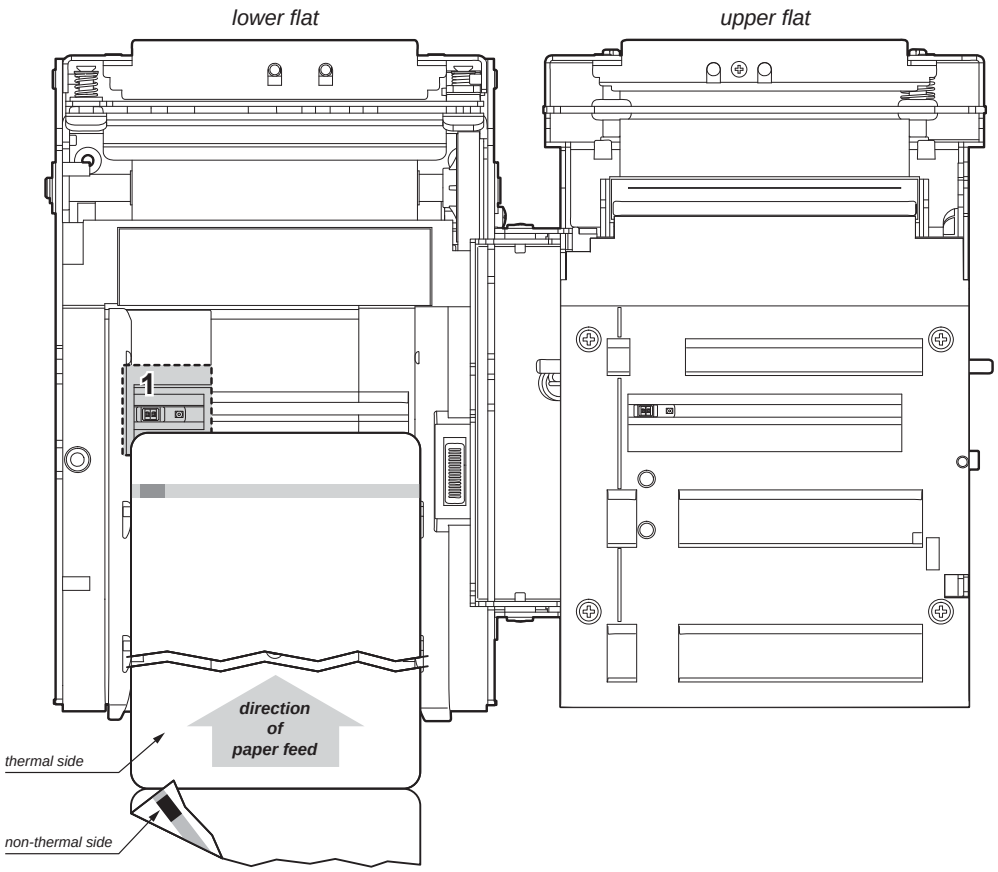
SENSOR USED (see following figure)	VALUE OF THE “NOTCH/B.MARK POSITION” PARAMETER	USING MODE OF SENSORS	NOTCH TYPE
-	Disabled	-	Alignment disabled
1	Bottom	Reflection	Black mark printed on the non-thermal side of paper
2	Top	Reflection	Black mark printed on the thermal side of paper
1 + 2	Transparence	Transparence	Hole between tickets or gap between labels



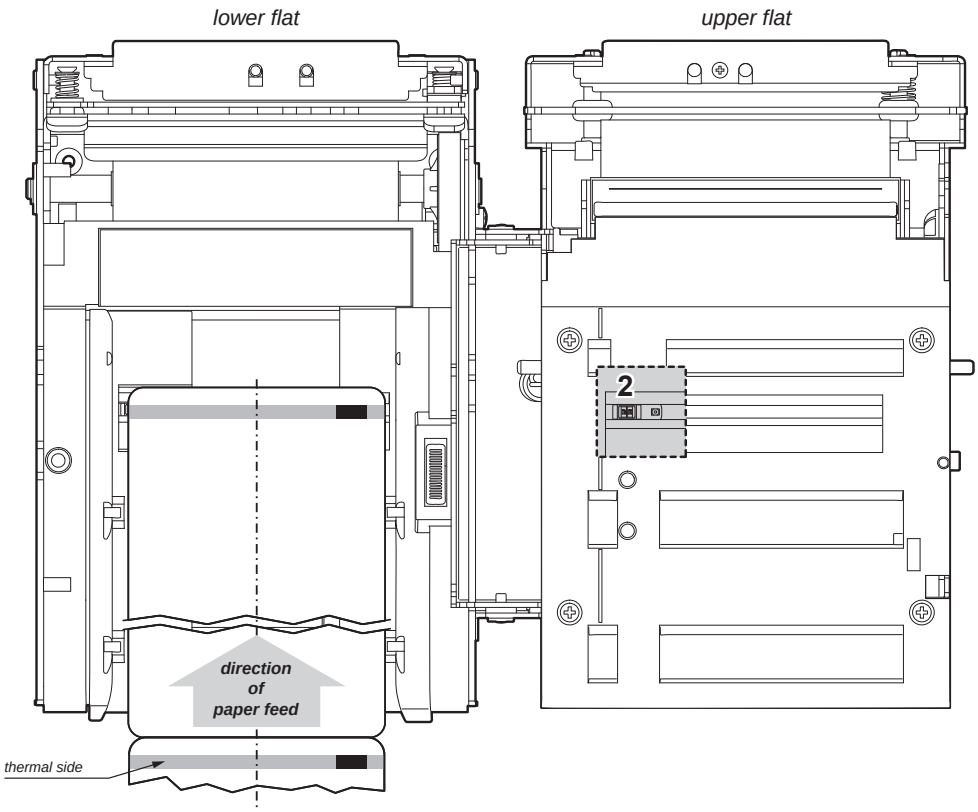
NOTE:
For ease of understanding, the image shows the two flats represented in the same plane.

The following figures show the usable format of paper and the corresponding sensors used for alignment:

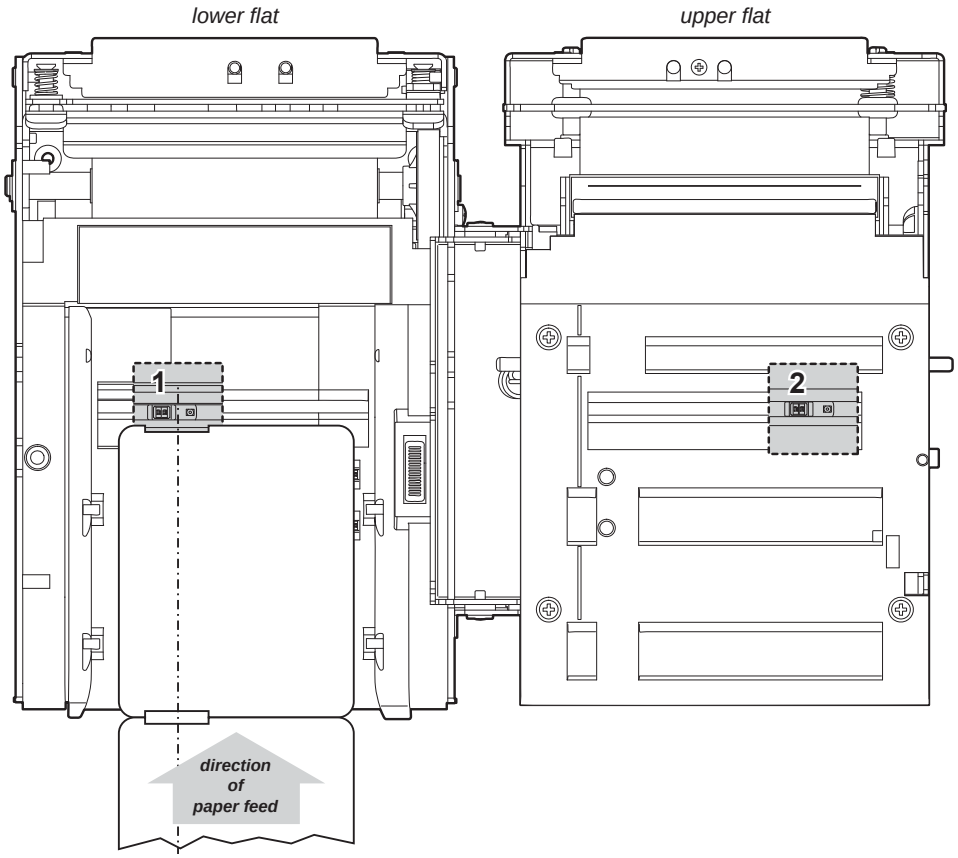
paper with black mark on the non-thermal side of paper



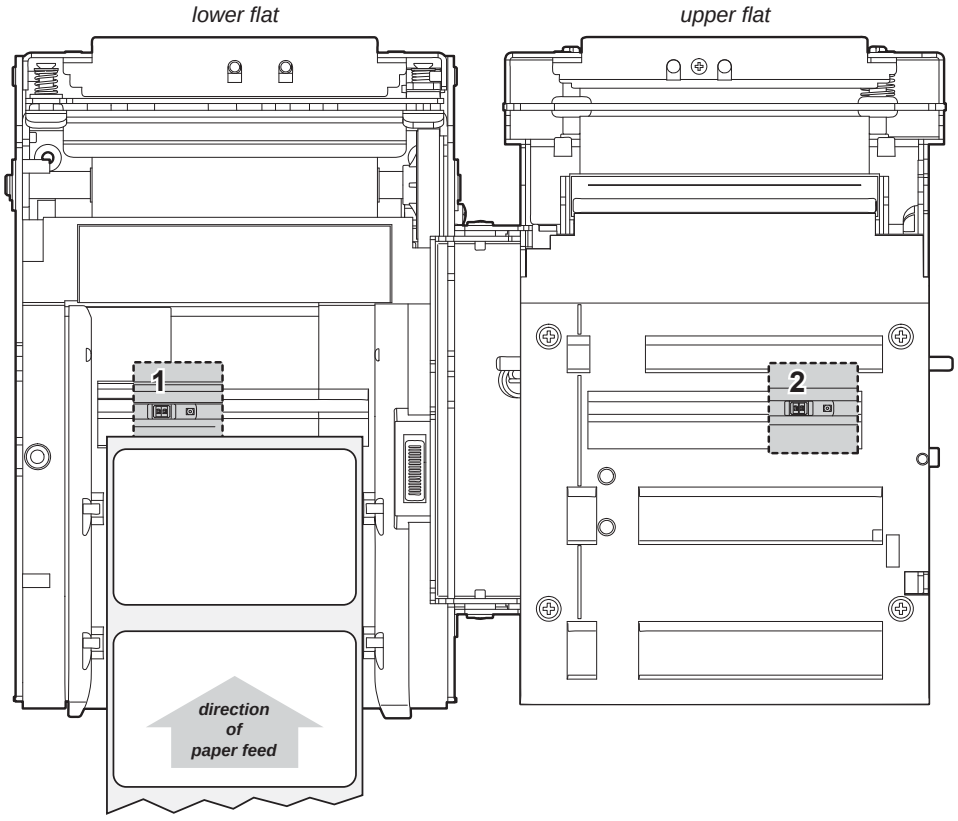
paper with black mark on the thermal side of paper



tickets with hole



paper with labels (for models without triple feeder)



NOTE:
For ease of understanding, the image shows the two flats represented in the same plane.

10.2 Calibration

The sensor calibration occurs automatically and consists in adjusting the quantity of light emitted to match the degree of whiteness of the paper used and the degree of black of the mark printed on paper.

The device automatically performs the self-calibration during the Setup procedure only if the “Notch/B.Mark Position” parameter is set to a value other than “Disabled” (see chapter 5).
Otherwise, the self-calibration can be started manually by pressing the S1 key during power-up.

When self-calibration starts, the device performs some paper feeds and then it prints the calibration result and the value of the PWM duty-cicle of the alignment sensor driver so that it can be perform an optimal notch detection:

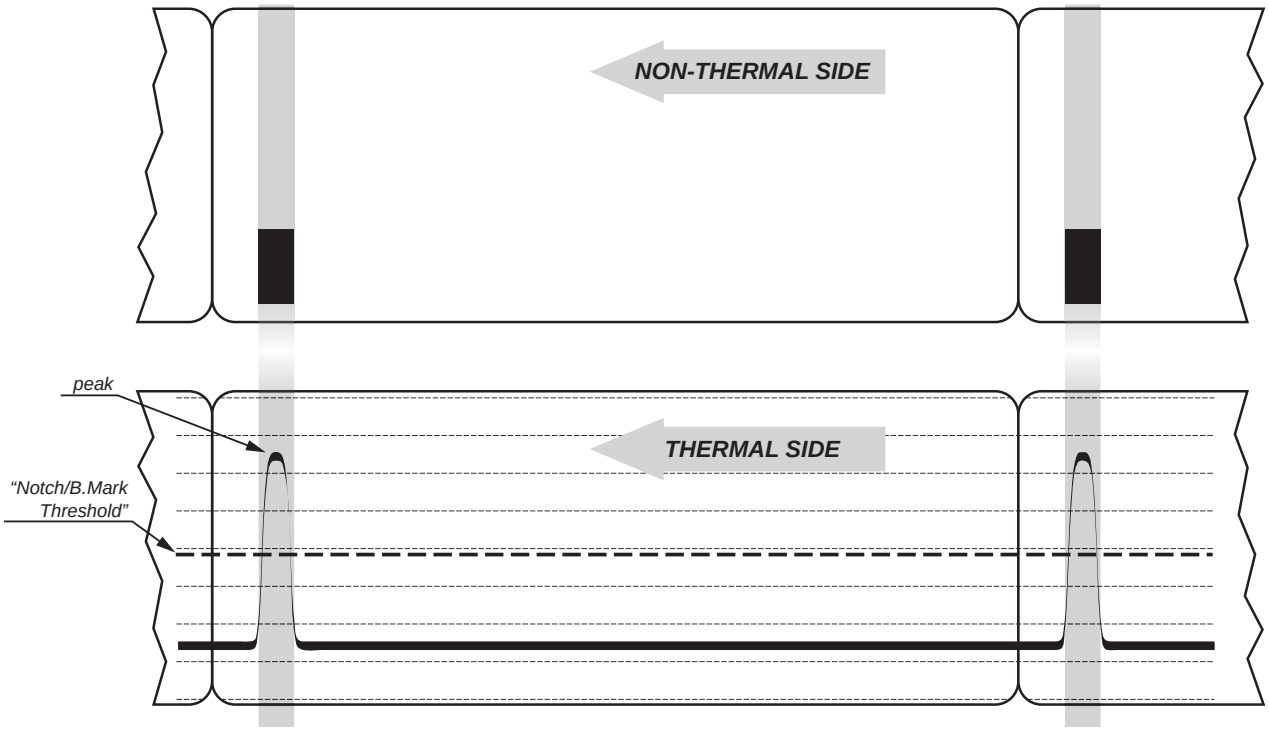
Autosetting Notch : OK
PWM Duty Cycle : 85.3%

The “Autosetting Notch” parameter indicates the result of the self-calibration procedure; OK will appear if it has been successful, NOT OK will appear if the procedure has failed.

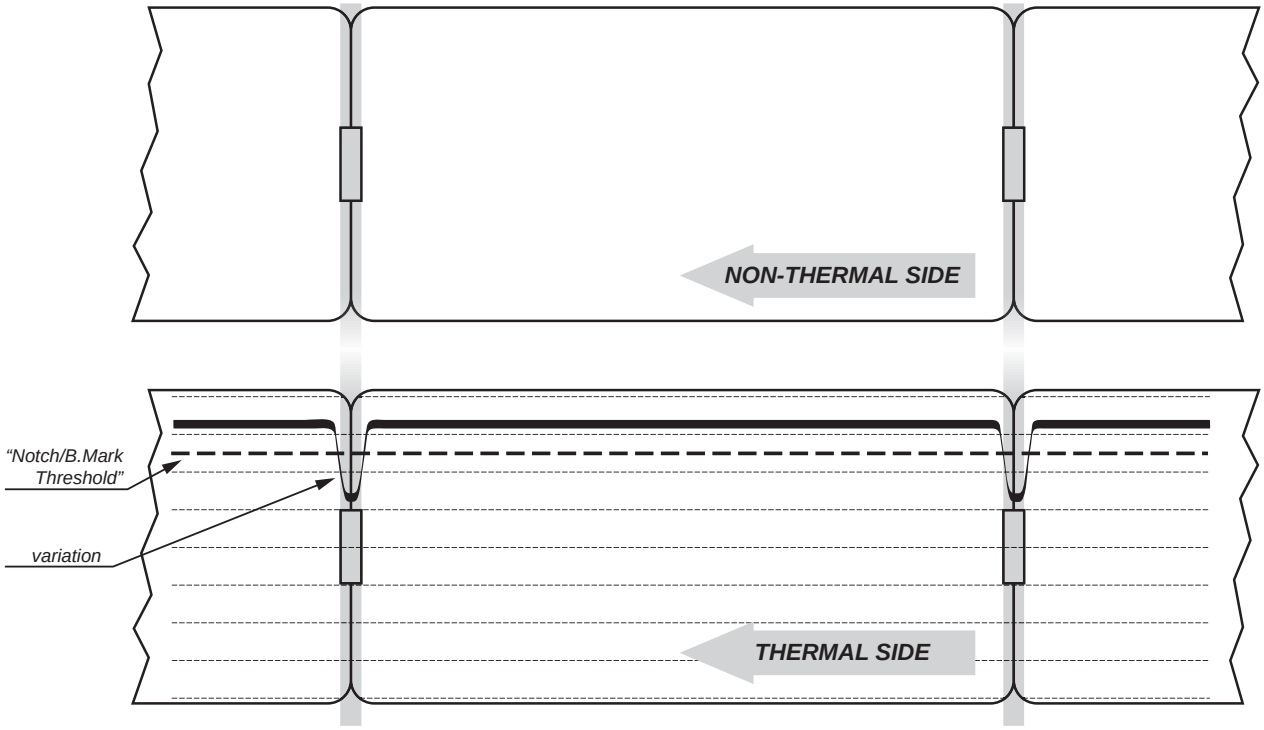
After the printing of the procedure result, the device offers the execution of the function of paper characterization “Characterize Paper” and the change of the “Notch/B.Mark Threshold” parameter which represents the detection threshold of the notch.
Choosing the “Yes” value for the “Characterize Paper” parameter, the device prints a graphic representation (see following figures) of the outgoing voltage of the alignment sensor (expressed as a percentage) and the “Notch/B.Mark Threshold” value.

This graphic representation is useful to set the most suitable value to assign to the “Notch/B.Mark Threshold” parameter and then to better identify the optimal threshold value which takes into account the variations of the signal and the small oscillations around zero.

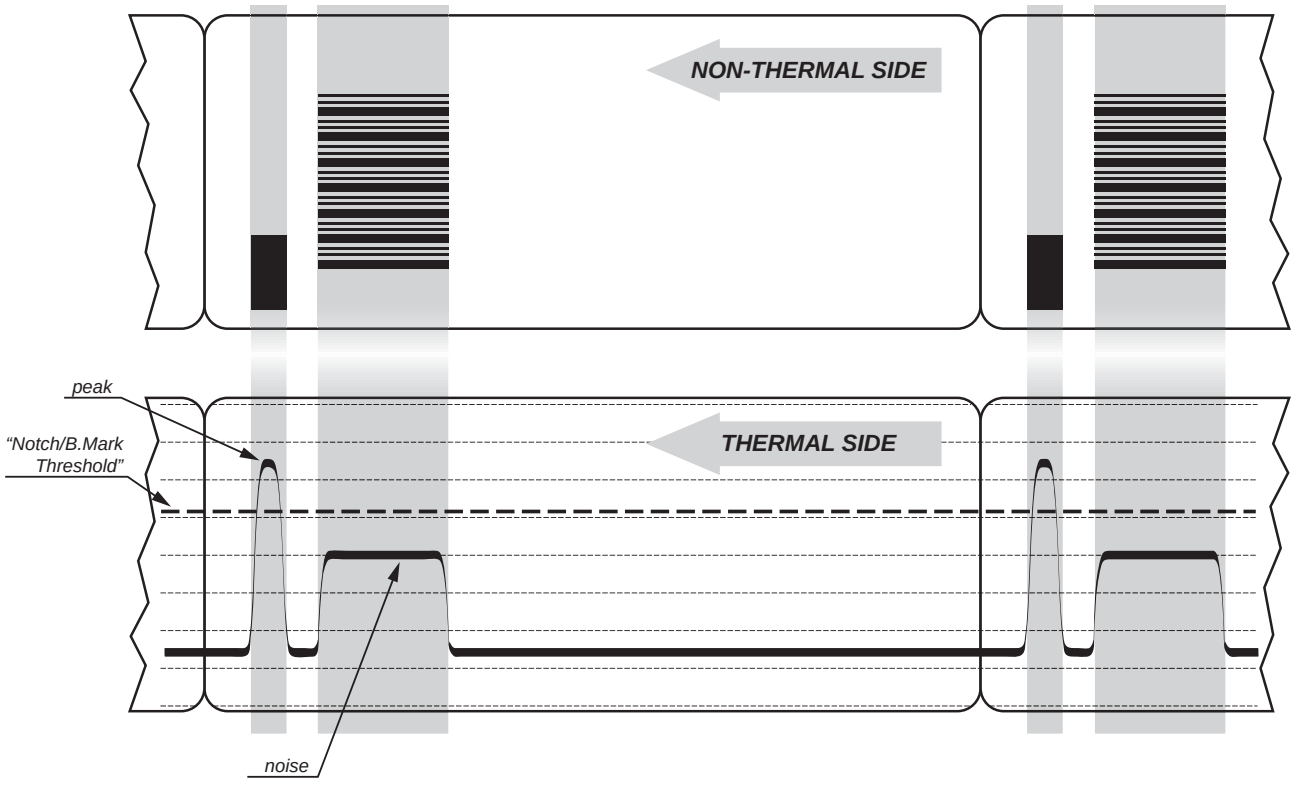
The following figure shows an example of paper with the non-thermal paper printed with black marks: the outgoing voltage is constant while passing the white paper between two notches and presents a peak at each black mark.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is placed about half of the peak.



The following figure shows an example of paper with holes: the outgoing voltage is constant while passing the paper between two holes and presents a variation at each hole.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is placed about half of the variation.



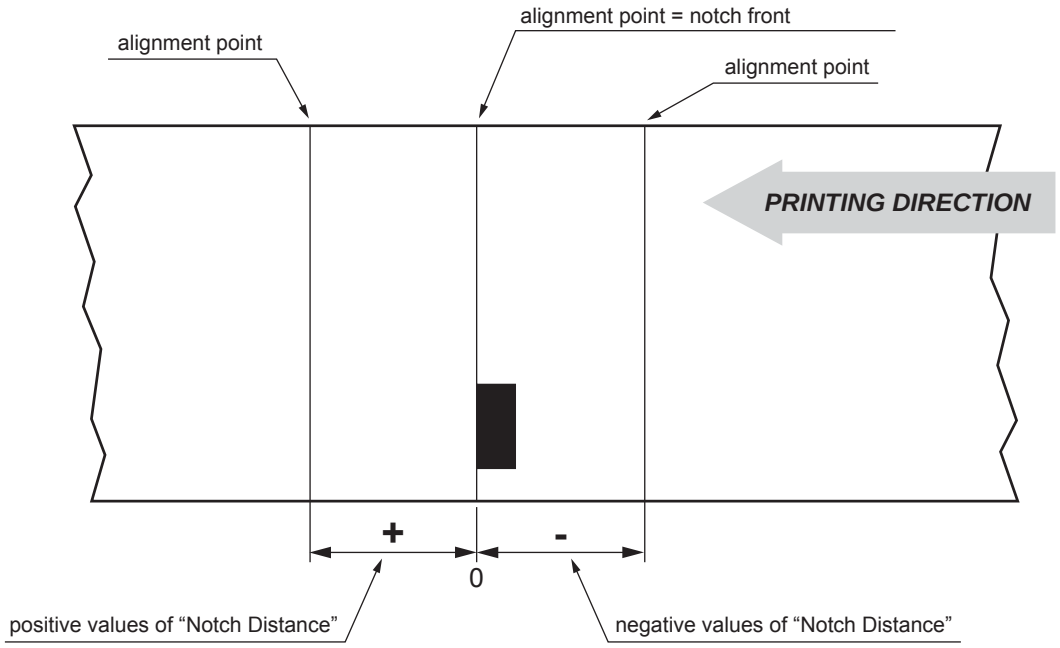
The following figure shows an example of paper with the non-thermal paper printed with black marks and other graphics (for example, a barcode): the outgoing voltage is constant while passing the white paper between two notches, presents a peak at each black mark and presents some “noise” at each barcode.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is located about halfway between the peak value and the maximum value of the “noise”.



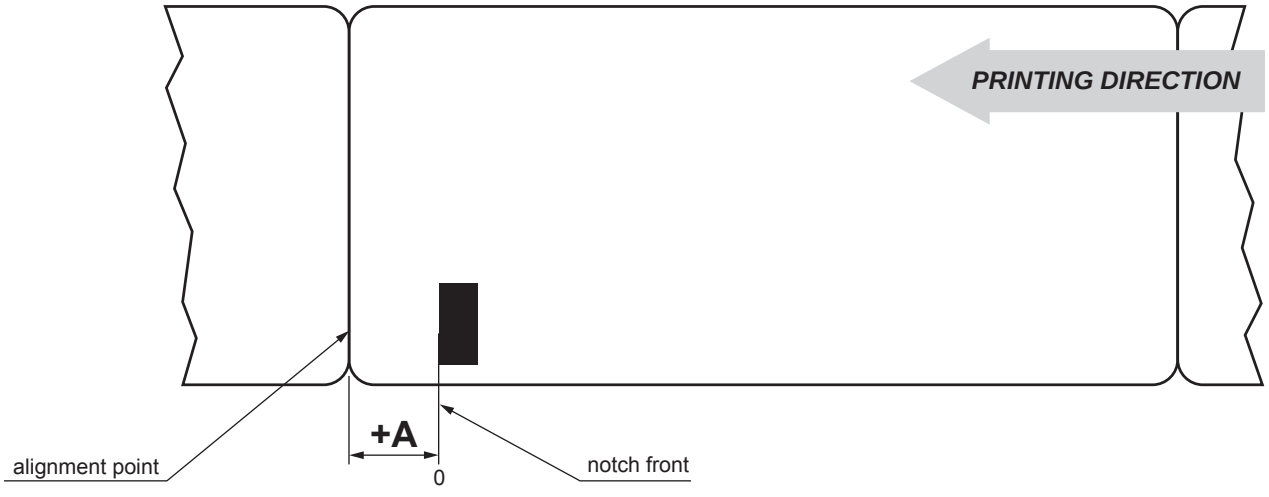
If the maximum value of “noise” read by the sensor is very close to the peak value, it might be difficult to place the value of the “Notch/B.Mark Threshold” at an intermediate point. In these cases, it is mandatory that the portion of paper between the point of printing end and the front notch is completely white (no graphics). In this way, the only next graphic detected by the sensor for alignment after the printing end will be the notch.

10.3 Alignment parameters

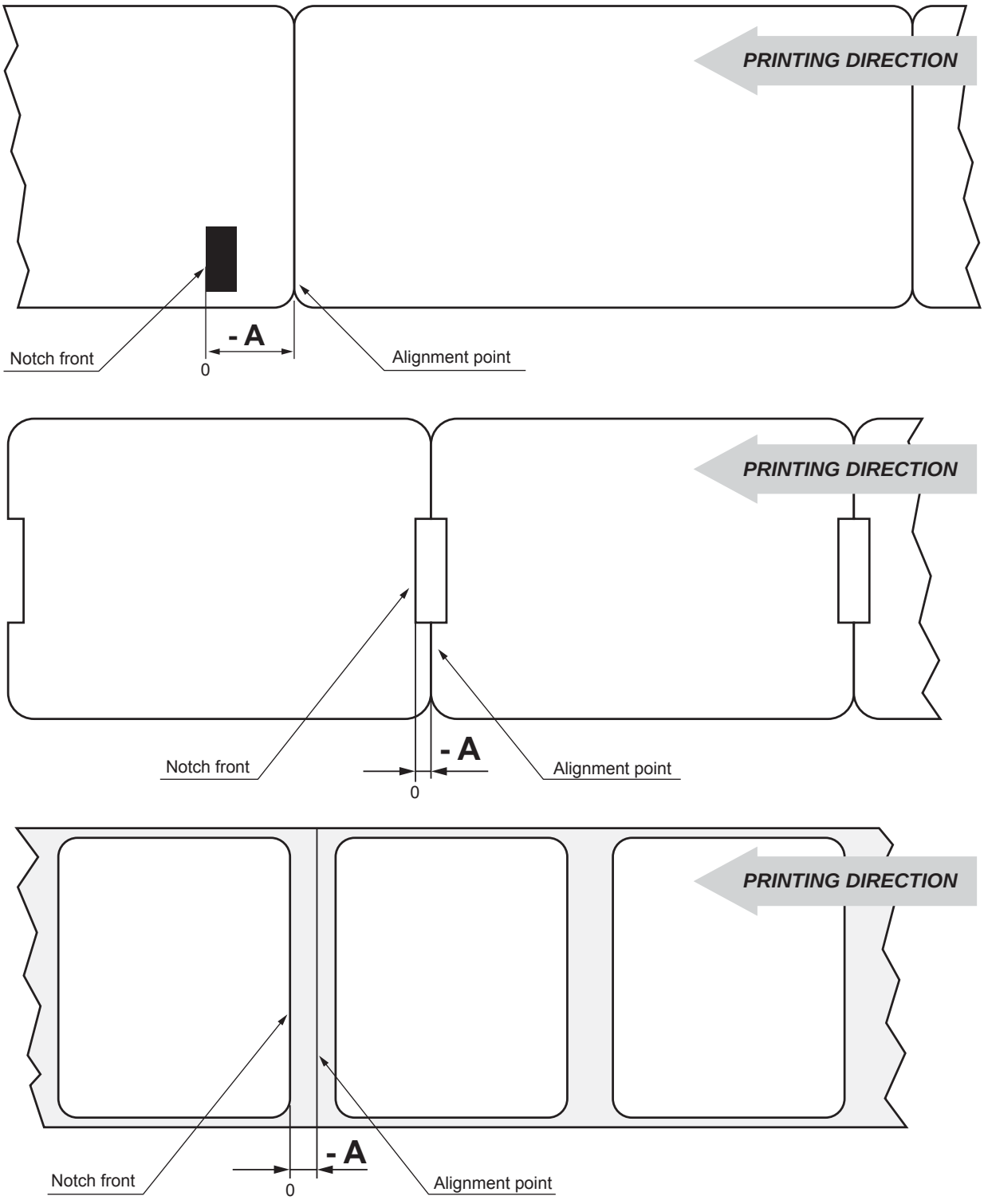
The “alignment point” is defined as the position inside the ticket to use for the notch alignment. If you use paper with perforation (FanFold modules), the alignment point corresponds with the edge of the ticket.
The distance between the notch edge and the alignment point is defined as “Notch Distance”. Referring to the front of the notch, the value of “Notch Distance” can be positive or negative. If the “Notch Distance” value is set to 0, the alignment point is set at the beginning of the notch.



The following figure shows an example of paper with alignment point set by a positive value of “Notch Distance” (“Notch Distance” = + A):

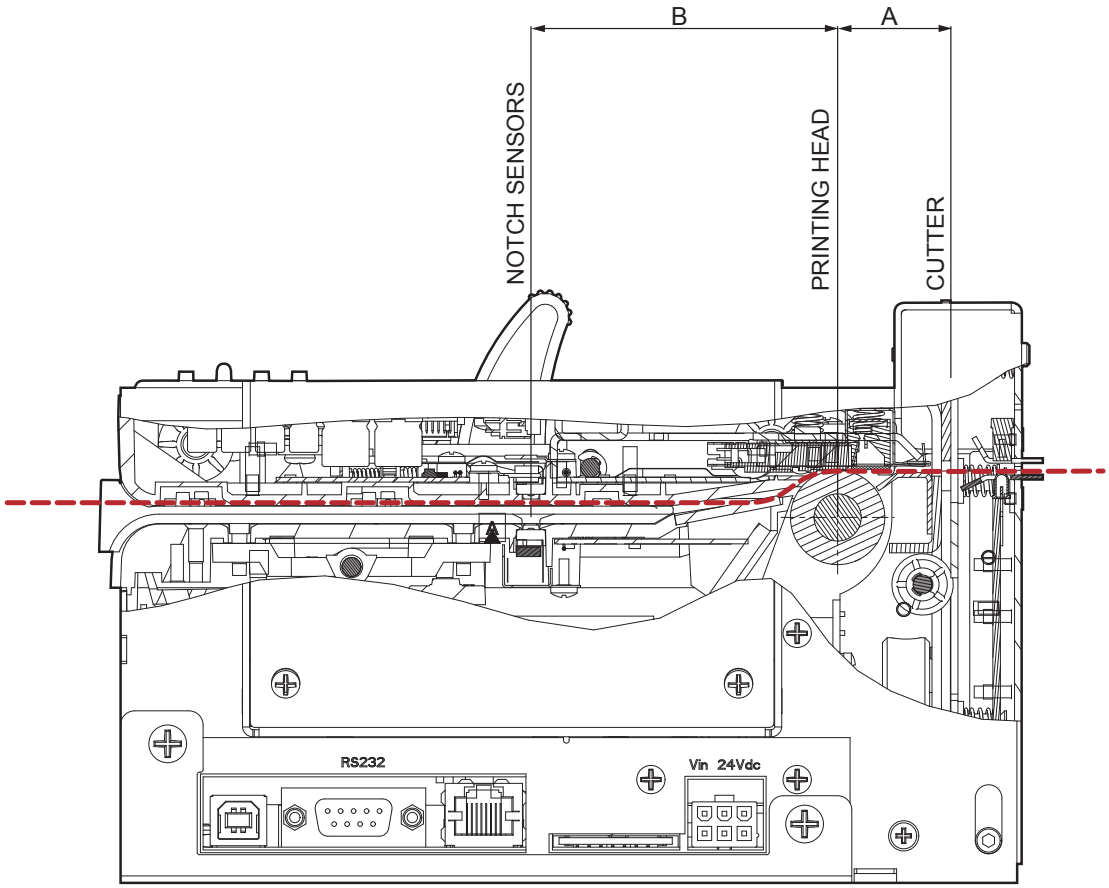


To set a negative value of the “Notch Distance” parameter is useful in cases where the alignment point refers to the notch printed on the previous ticket or where the desired cutting line is placed in the middle of the alignment notch (for example, for paper with holes or gap). In the following images, the value of “Notch Distance” parameter is set to -A.



If the notch is placed on the non-thermal side of paper, the “Notch Distance” value can have a minimum value of -5mm (negative value) and a maximum of 66mm. This maximum value is imposed by the mechanical distance between the lower notch sensor and the printing head.

The following figure shows a section of the device with the paper path and the distances (in mm) between the alignment sensors, the printing head and the cutter (cutting line), where
A = 24mm = distance between the cutting line (cutter) and the printing line (head) on paper
B = 66mm = distance between the the printing line (head) and the alignment sensors



ESC/POS™ EMULATION

To define the alignment point you need to set the printer parameters that compose the numerical value of the “Notch Distance” parameter.
For example, to set a notch distance of 15mm between the notch and the alignment point, the parameters must be set on the following values:

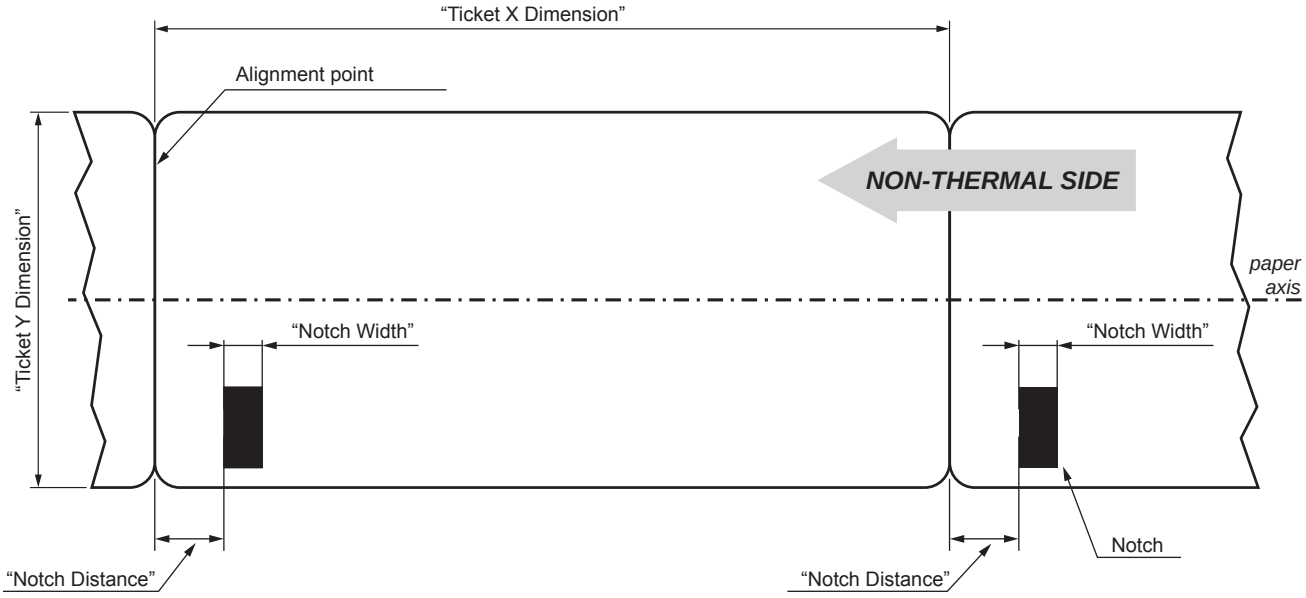
Notch Distance Sign	: +
Notch Distance [mm x 10]	: 1
Notch Distance [mm x 1]	: 5
Notch Distance [mm x .1]	: 0

The “Notch Distance” parameter, may be modified as follows:
- during the Setup procedure of the device (see chapter 5)
- by modifying the Setup.ini file (see par.12.9)
- by using the $1D $E7 command (for more details, refer to the Commands Manual)
- by driver

SVELTA EMULATION

The ticket features and the alignment parameters, may be modified as follows:
- by using the parameters of the <LHT> command (for more details, refer to the Commands Manual)
- by modifying the Setup.ini file (see par.12.9)
- by driver

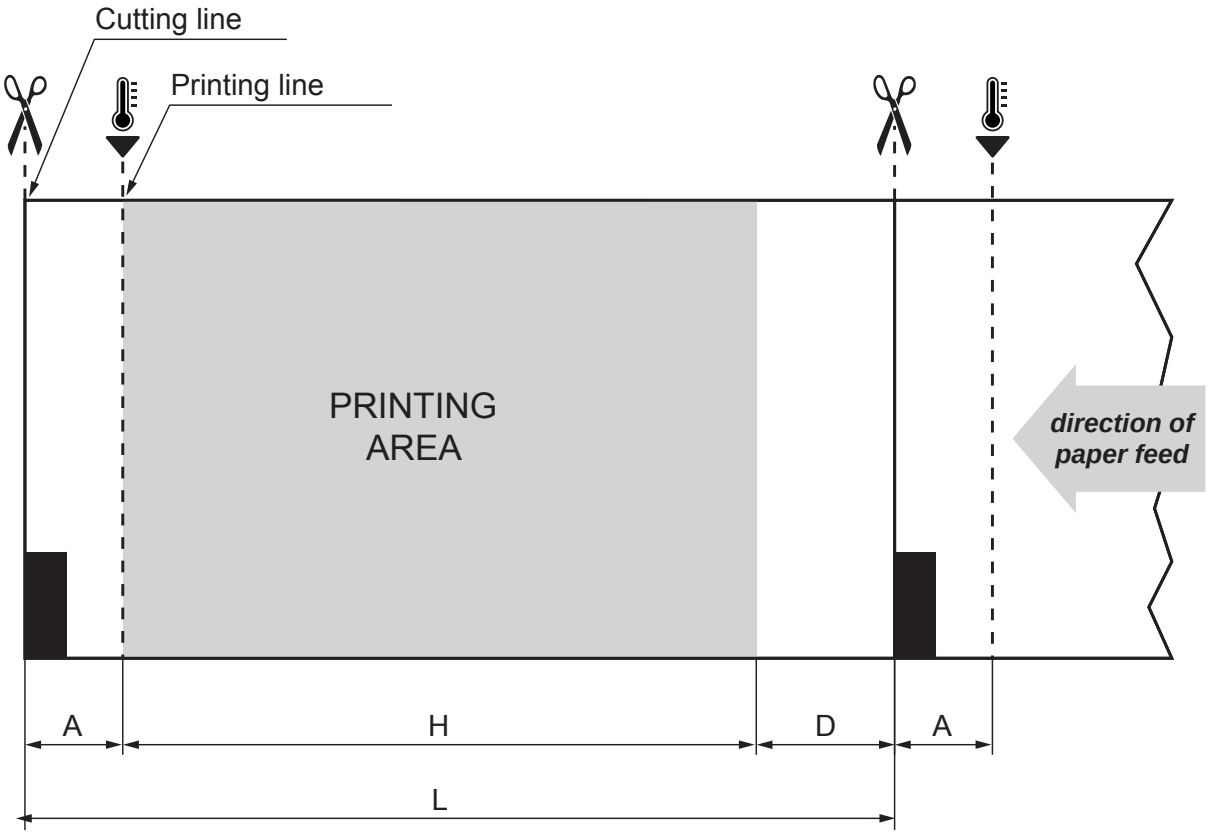
The following figure shows the some of parameters for alignment of the Setup.ini file:
- “Ticket X Dimension”
- “Ticket Y Dimension”
- “Notch Width”
- “Notch Distance”



10.4 Printing area

It is important to well calibrate the height of the printing area of ticket according to the inter-notch distance, in order to print ticket containing only one notch and to not overlay printing to a notch (that will make it useless for the next alignment).

The following figure shows an example of tickets with “Notch Distance” set to 0:



To use all the notches on the card, you must comply with the following equation:

$$L > H + A$$

where

L = INTER-NOTCH DISTANCE
A = NON-PRINTABLE AREA (0mm ≤ A ≤ 24mm)
H = HEIGHT OF THE PRINTING AREA

The height of the printing area (H) can be increased to make no progress on alignment (D = 0) but no further.

In ESC/POS™ emulation, after a performed cut, the paper is not completely recovered (in orde to avoid jamming when using of thin paper). This decreases the height of the non-printable area : A = 9mm.
So, in this emulation, it is important to consider the presence of this non-printable area when you define the layout of the ticket to print. Otherwise, you can use the command $1C $C1 to recover paper completely (see Commands Manual for more details).

The SVELTA emulation, instead, it is designed specifically for ticketing and then for using with heavy paper, which avoids the risk of paper jams. After performing a cut, the device completely recovers the paper and therefore the distance of recovery after cutting does not generate non-printable areas: A = 0.

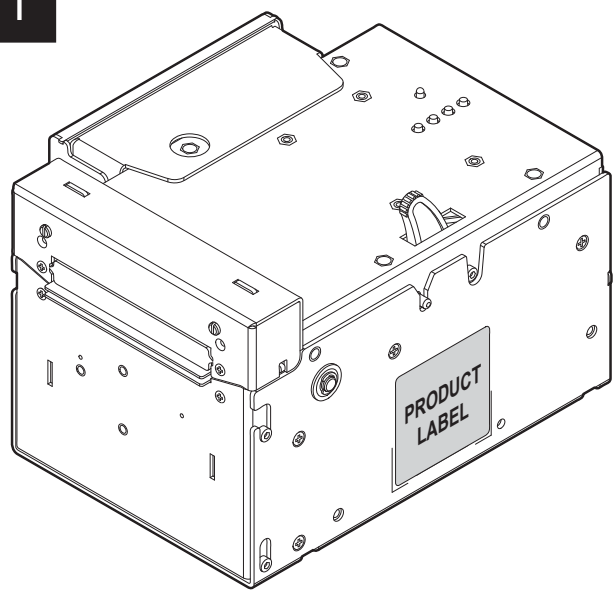
11 TECHNICAL SERVICE

In case of failure, contact the Technical Service by sending an e-mail to support@custom.it detailing:

1. Product code
2. Serial number
3. Hardware release
4. Firmware release

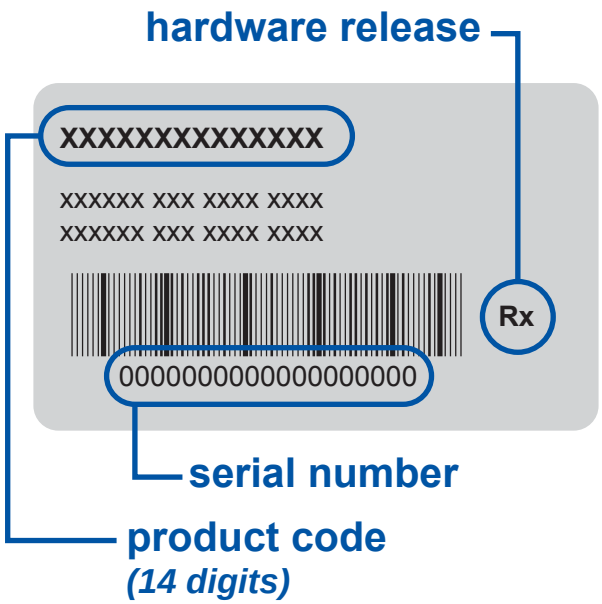
To get the necessary data, proceed as follows:

1



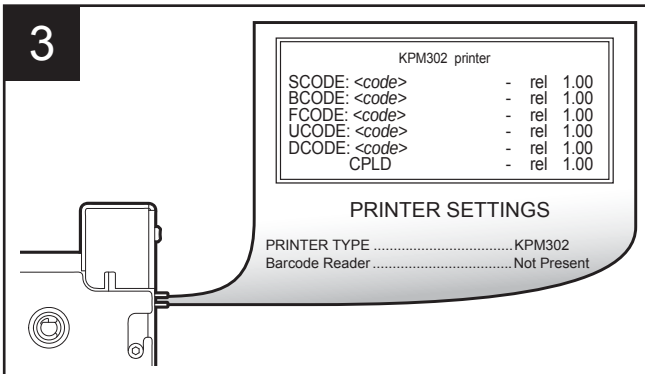
Find the product label located on the side of the printer.

2



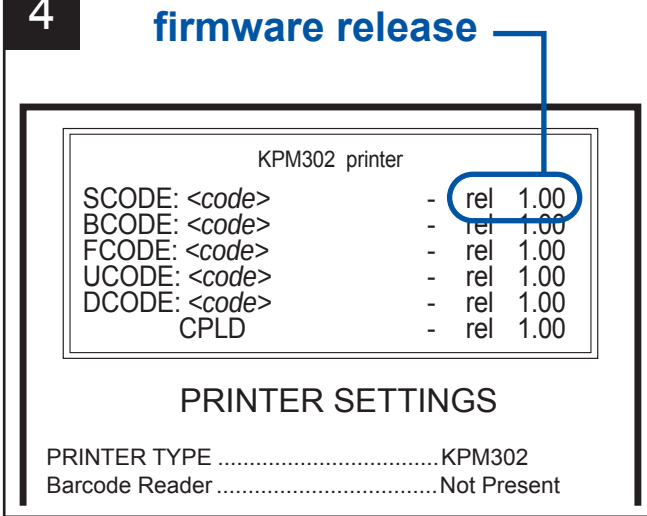
The label shows the product code, the serial number and the hardware release.

3



Print a Setup report (see paragraph 5.1)

4



The Setup report shows the firmware release.

5

support@custom.it
Customer Service Department

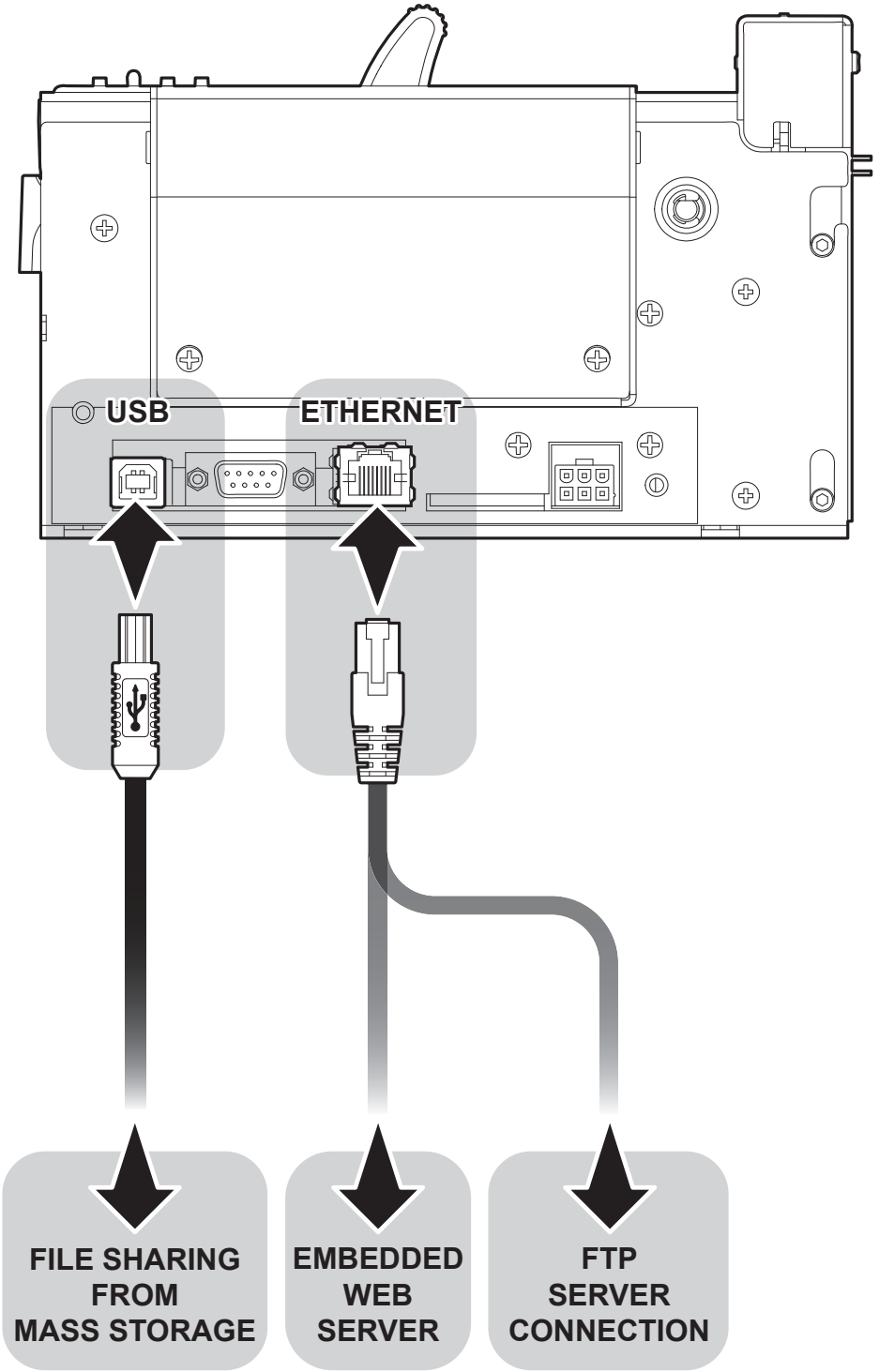
Send an e-mail to the Technical Service, with the data collected.

12 ADVANCED FUNCTIONS

12.1 File sharing

The printers can be connected to a PC through two types of connections (see par.3.4):
1. with USB cable
2. with Ethernet cable.

According to the connection made, it is possible to manage drivers, fonts and logos of the printer and configure the operating parameters in three different ways
1. by files sharing from Mass Storage, in case of USB connection
2. by files sharing from FTP Server connection, in case of Ethernet connection
3. by entering the Embedded Web Server, in case of Ethernet connection.



12.2 Embedded Web Server

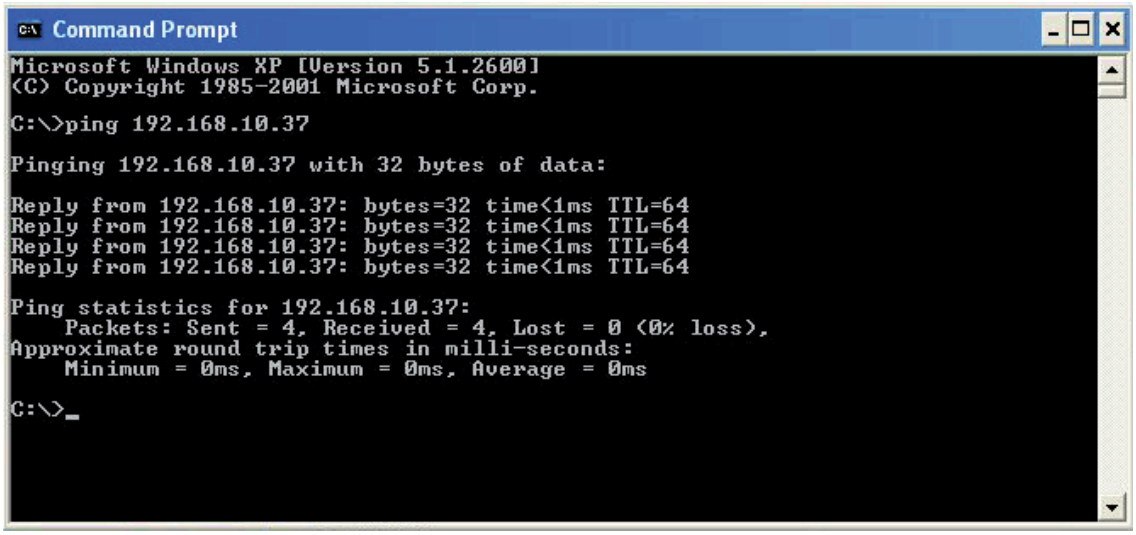
Printers are equipped with an Embedded Web Server that allows to execute some operations on printers, through a clear web interface, including:

- monitoring the printer status;
- setting operating parameters;
- configuring network settings;
- managing the logos;
- configuring the email service to make diagnostics and maintenance operations easier;
- download printing drivers.

Before entering in the Embedded Web Server, check that:

- the printer is connected and turned on;
- the printer has a network connection based on the IP protocol;
- the following ports are opened (if a Firewall is present on computer): 9100 (or differently set up). 15000, 15001, 15002;
- have a Web browser on the computer;
- the printer is connected to the network and its IP address and its Subnet Mask are set up in a correct way. To check the setting of these parameters, open a new terminal window and type “ping” on the command bar followed by the IP address of the printer. The picture shows an example of a positive result after the “ping” command. Otherwise, if connection isn’t possible, to its IP address, a failure notice will appear.

Example: ping 192. 168. 10. 37



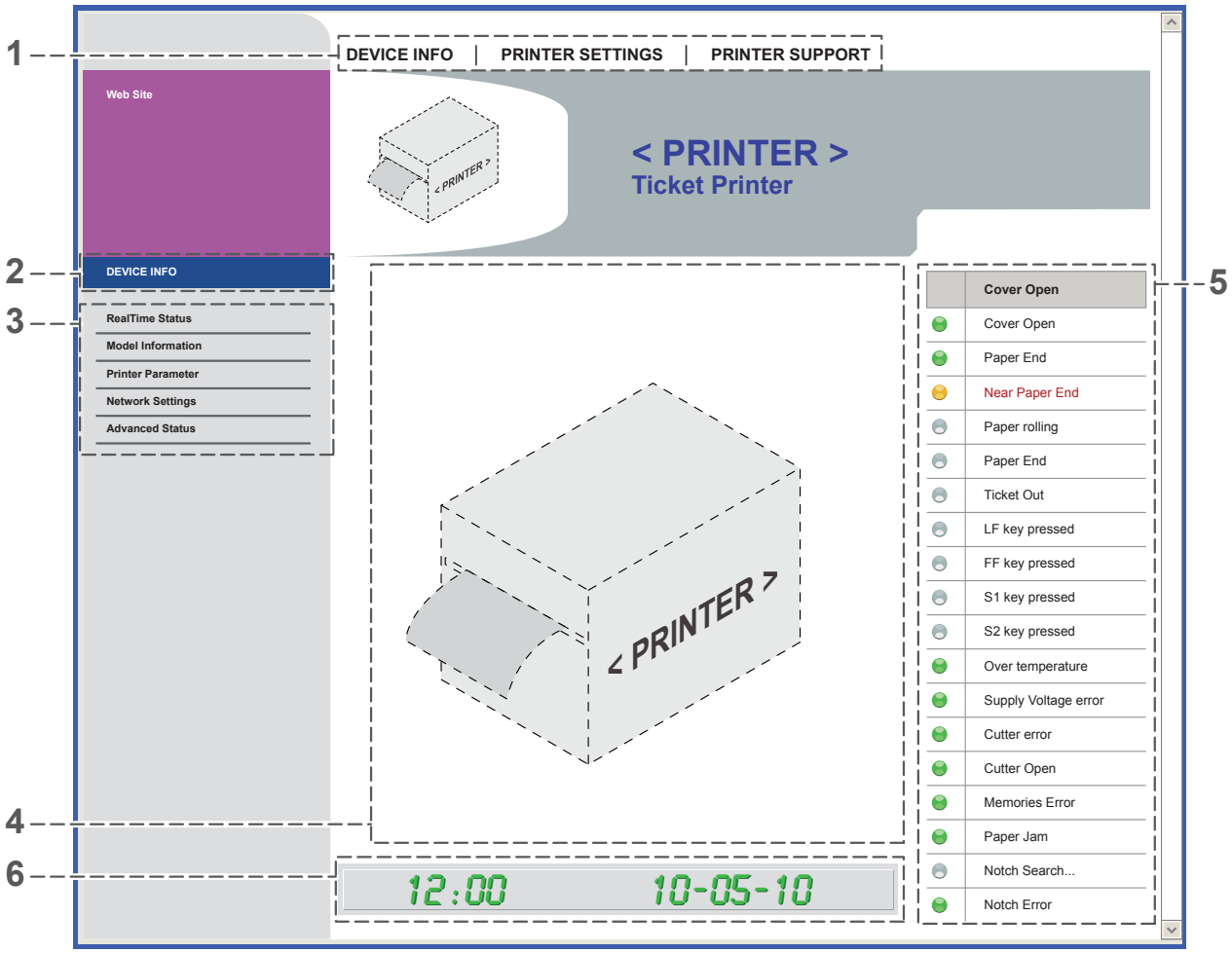
12.3 Embedded Web Server: access

To enter the Embedded Web Server, type the IP address assigned to the printer into Web browser. For example, if IP address of the printer is 192.168.10.37, type in the Web browser:

http://192.168.10.37

On the screen will appear the internal default page that corresponds to the section “Device Info” The home page is divided into 6 areas whose functions are described below:

1.	**SECTIONS:**	The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2.	**CURRENT PAGE**	Reports section currently displayed.
3.	**TOOLS**	Lists the tools available within the chosen section.
4.	**PRINTER PICTURE**	Displays a picture representative of the printer operational status. The picture changes depending on the parameters reported in area number 5.
5.	**REAL TIME STATUS**	Report a list of operating parameters controlled and monitored in real time (with a regular refresh from 5 to 15sec).
6.	**TIME AND DATE**	Displays the current time and date.



NOTE:
To know the IP address of the printer, print the Set-up report of the printer (see chapter 5) or use “Locator”.

To enter some sections and some configuration services, it is required the identification of the user and password. To make registration and to obtain the access to the restricted areas, when it is required insert the user name and the password as indicated in the following table:

User Name	**Custom**
Password	**AlwaysOn**

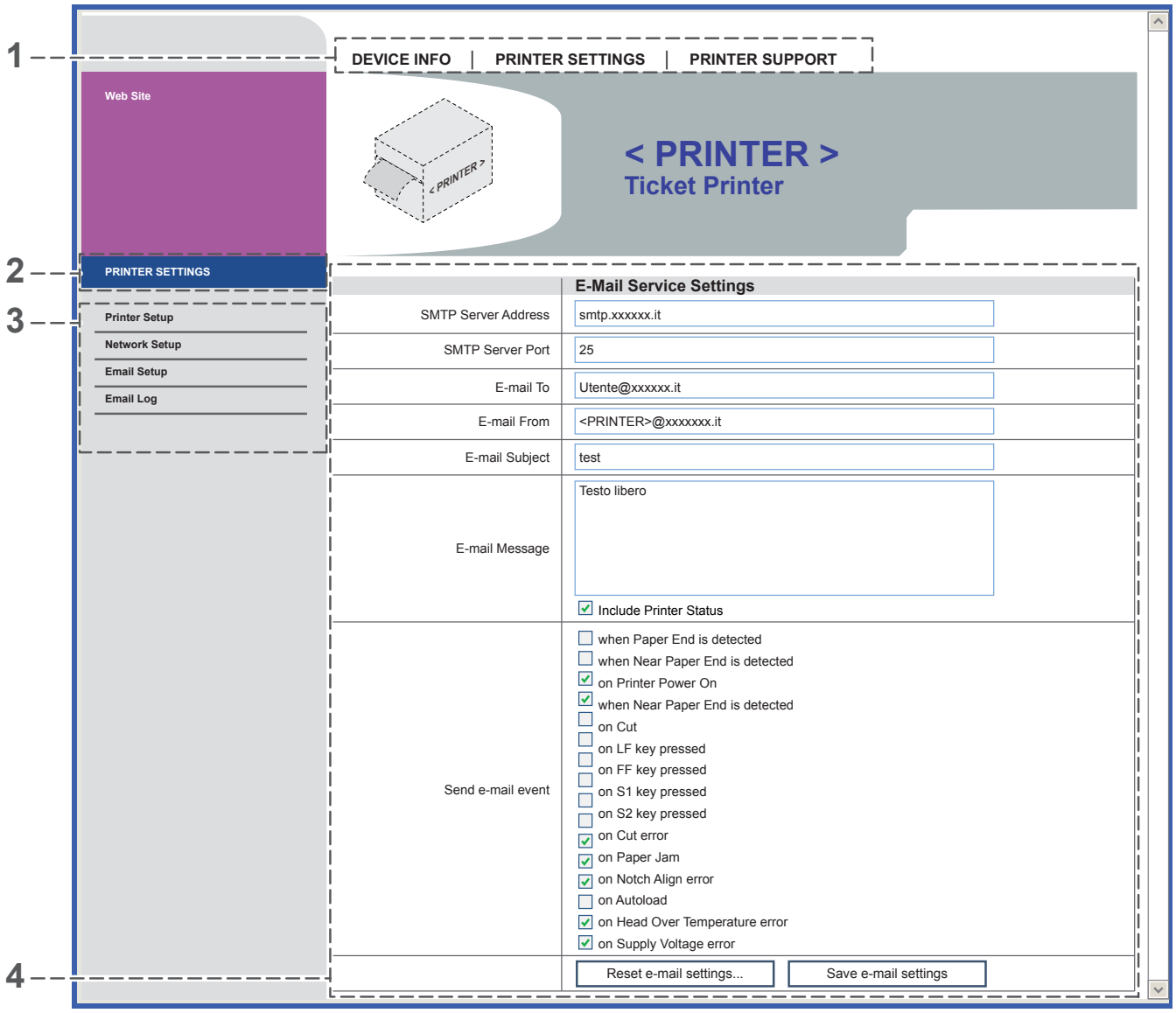
NOTE:
Respect capital and small letters as indicated in table.

12.4 Embedded Web Server: functions

The “Printer Settings” section is a restricted one. To enter the section, it is required the identification of the user and password. With the tools of this section, it is possible to set up the same parameters of the printer that are configurable in the printer’s Set-up mode (see chapter 5).

The following figure shows the page for the “EMAIL SETUP” tool. It is divided into 4 areas:

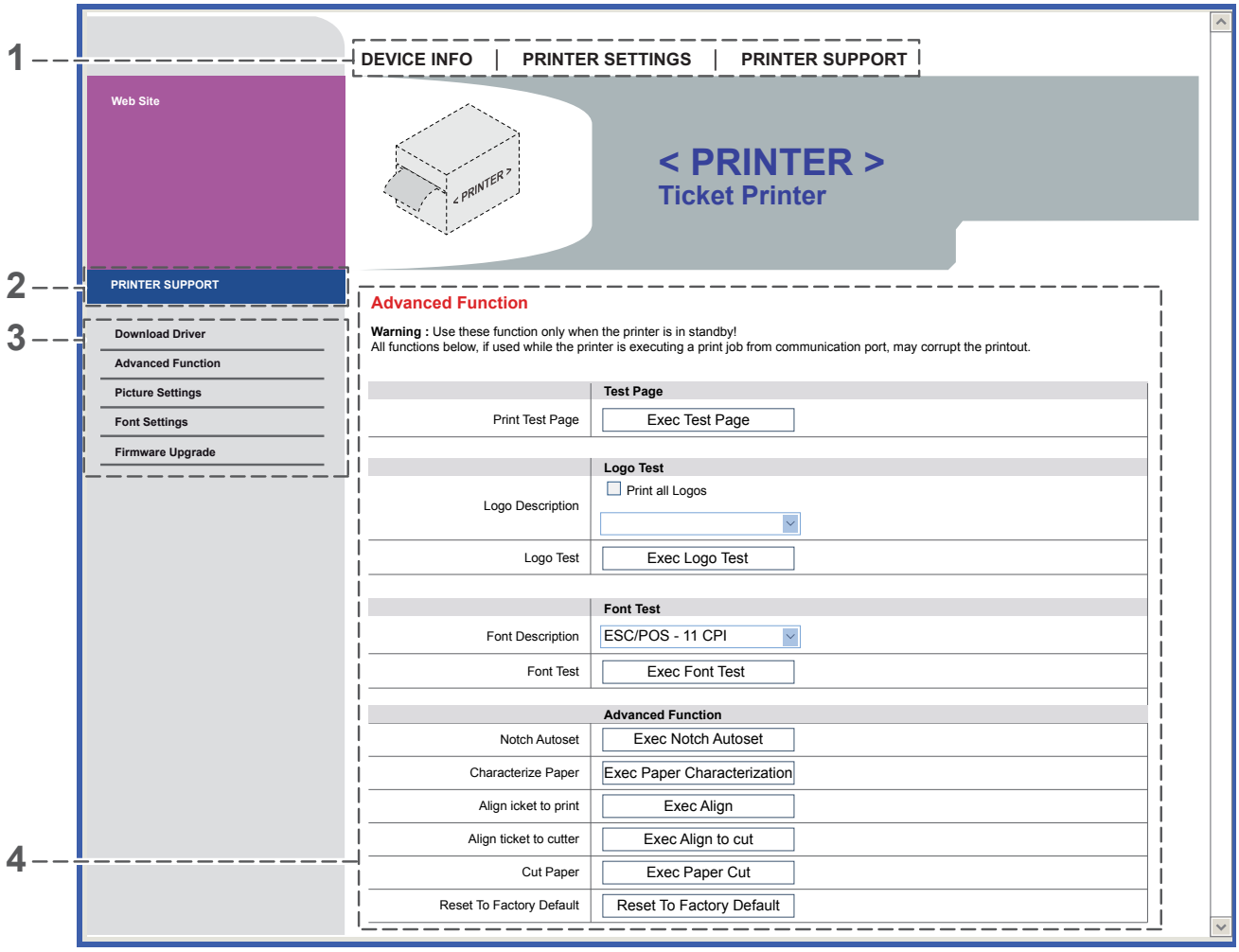
1. **SECTIONS:** The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2. **CURRENT PAGE** Reports section currently displayed.
3. **TOOLS** Lists the tools available within the chosen section.
4. **EMAIL SETUP** Displays the fields available to configure the automatically delivery of service email in order to inform the user when a change occurs to operating status of the printer. It is possible to select the events to enable the sending of the email



With the tools in the “Printer Support” section, it is possible to download drivers, manage logos and test some printer function for demonstrative and service purpose,

The following figure shows the page for the “ADVANCED FUNCTIONS” tool. It is divided into 4 areas:

1. **SECTIONS:** The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2. **CURRENT PAGE** Reports section currently displayed.
3. **TOOLS** Lists the tools available within the chosen section.
4. **ADVANCED FUNCTION** Displays all the tests available for the printer: printing a test page, the font test and the logos test, the self-calibration of the notch sensors and the ticket alignment.

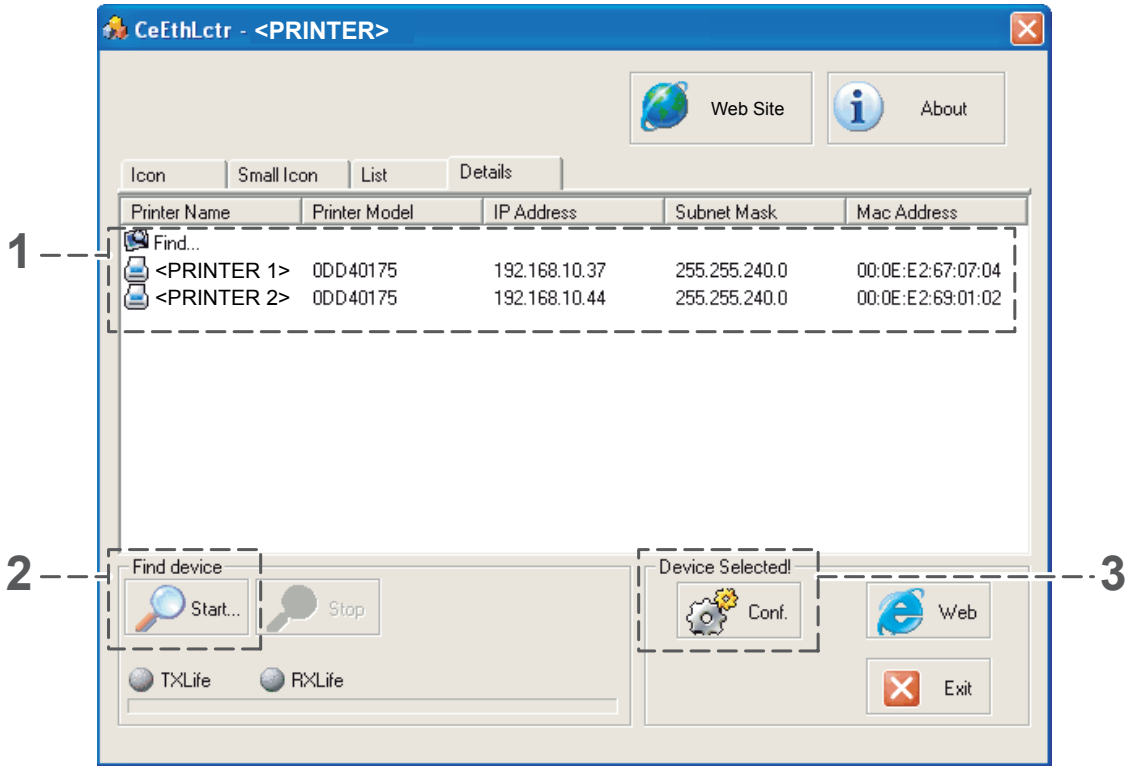


12.5 Locator

With the printers it is possible to use an external software to perform a search for printers connected to the network with Ethernet cable, even without knowing the IP addresses of individual printers

The following figure shows the software interface:

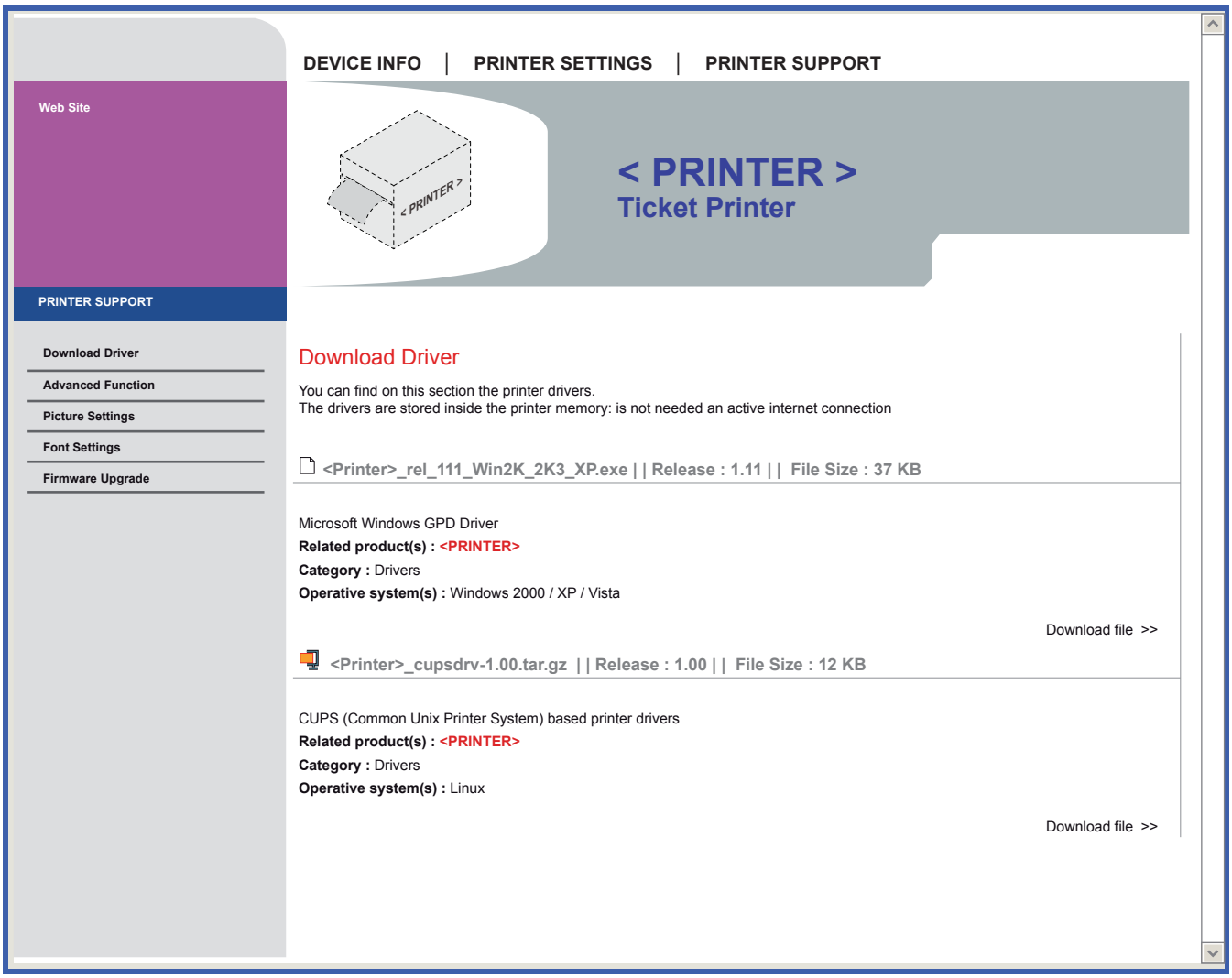
1. **DEVICES:** Displays the list of the connected printers.
2. **"START..."** Stars a new search.
3. **"CONF."** Enters the configuration window of the network parameters of the selected printer.



12.6 Drivers installation

Embedded Web Server

To install a new driver update for the printer, enter the “DRIVER” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).


DEVICE INFO | PRINTER SETTINGS | PRINTER SUPPORT
Web Site
< PRINTER >
Ticket Printer
PRINTER SUPPORT
Download Driver
Advanced Function
Picture Settings
Font Settings
Firmware Upgrade
Download Driver
You can find on this section the printer drivers.
The drivers are stored inside the printer memory: is not needed an active internet connection
<Printer>_rel_111_Win2K_2K3_XP.exe | | Release : 1.11 | | File Size : 37 KB
Microsoft Windows GPD Driver
Related product(s) : <PRINTER>
Category : Drivers
Operative system(s) : Windows 2000 / XP / Vista
Download file >>
<Printer>_cupsdrv-1.00.tar.gz | | Release : 1.00 | | File Size : 12 KB
CUPS (Common Unix Printer System) based printer drivers
Related product(s) : <PRINTER>
Category : Drivers
Operative system(s) : Linux
Download file >>

Mass Storage / FTP Server

It is possible to install the new driver update directly into the folder “DRIVER” on the Flash Drive of the printer.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par.12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

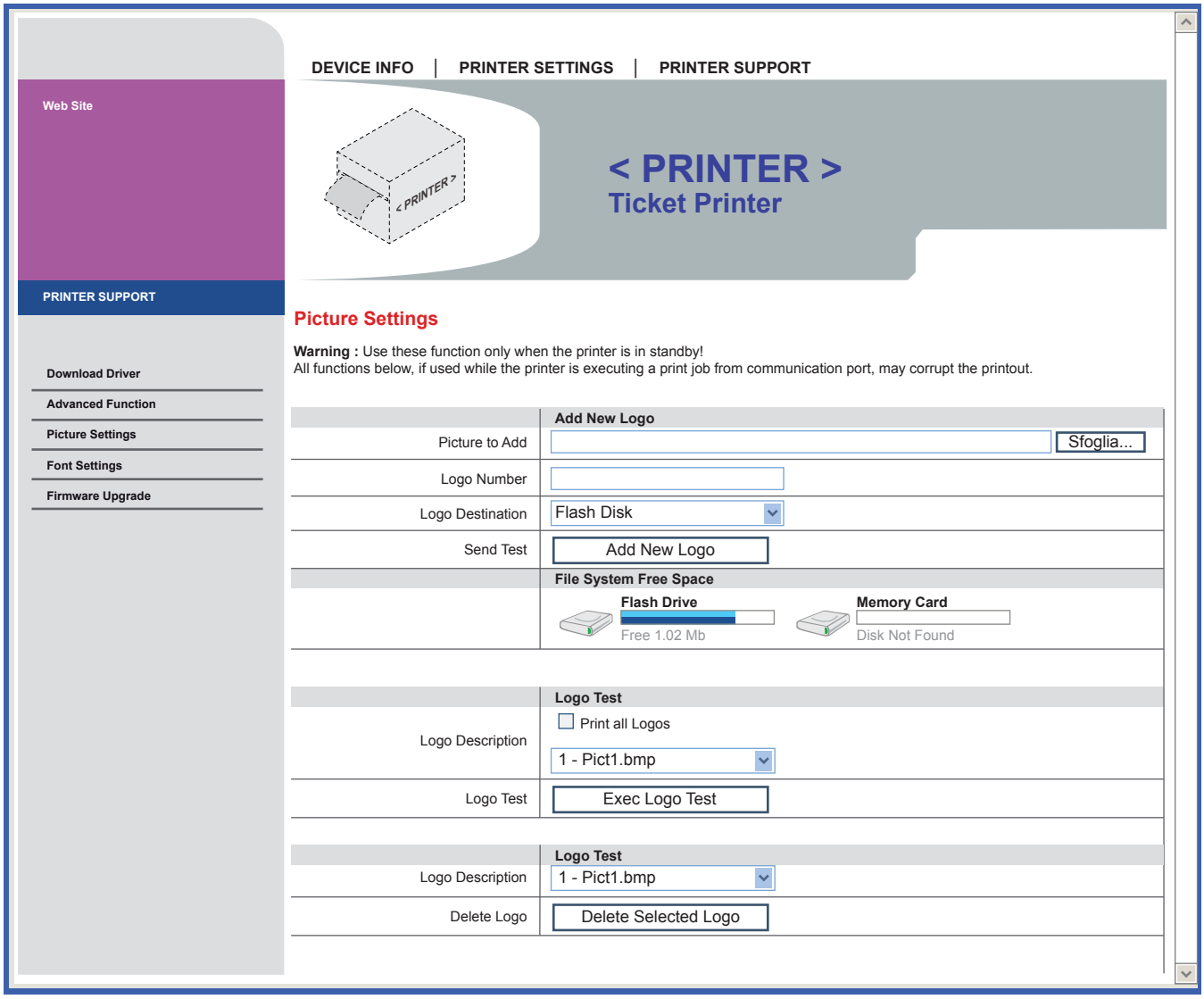
NOTE:
To know the IP address of the printer, print the Set-up report of the printer (see chapter 5) or use “Locator”. Type in the address bar “ftp://” followed by the IP address of the printer.

12.7 Logos management

It is possible to store new logos in addition to default logos stored on Flash Disk. The printer automatically provides to convert BMP image to the error-diffusion format in black and white.
Logos may be stored both on Flash Disk and on the Memory Card. The use of the Memory Card allows to handle more logos (however, the max number of manageable logos is limited by the RAM memory reserved for logos management).

Embedded Web Server

To add a new logo to the printer enter the “PICTURE SETTINGS” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).



Mass Storage / FTP Server

It is possible to add the new logo directly into the folder “PICTURES” on the Flash Drive of the printer.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par. 12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

After adding the logo, open the configuration file “PictList.ini” and add a new line with a number associated to the logo (to be used with printer’s commands), a letter for the memory unit and the logo file name, as indicated in the instructions written inside the “PictList.ini” file.

To delete a logos stored in the printer, proceed as follows:
1. delete the selected logo from the “Pictures” folder on Flash Disk or SD/MMC card;
2. in the configuration file “PictList.ini”, delete the line related to the erased logo.

The logos stored into a unit memory and converted by the printer, can be printed by using the number associated to the logo during the conversion step.
The correspondence between file-name and logo-number is warrant by the configuration file “PIctList.ini” and it is verifiable with the logo test.

NOTE:
To know the IP address of the printer, print the Set-up report of the printer (see chapter 5) or use “Locator”. Type in the address bar “ftp://” followed by the IP address of the printer.

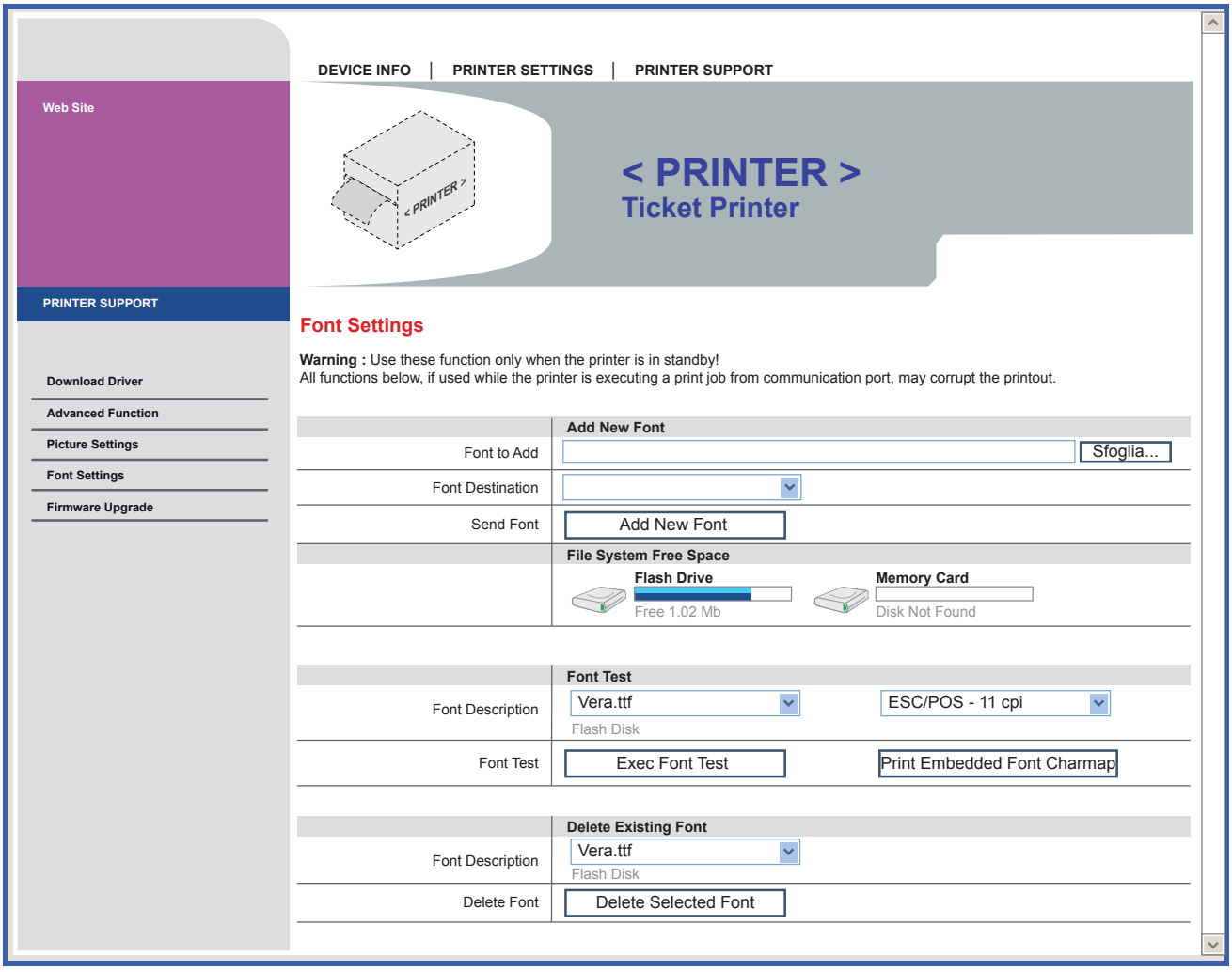
ATTENTION:
The configuration file “PictList.ini” on the printer’s Flash Disk, has to be modified even if the new added logo is stored on SD/MMC.

12.8 Fonts management

It is possible to store new font in addition to default fonts stored on Flash Disk. Fonts may be stored both on Flash Disk and on the Memory Card.
The use of the Memory Card allows to handle more fonts (however, the max number of manageable fonts is limited by the RAM memory reserved for fonts management).

Embedded Web Server

To add a new font to the printer enter the “FONT SETTINGS” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).



Mass Storage / FTP Server

It is possible to add the new font directly into the folder “FONTS” on the Flash Drive of the printer.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par. 12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

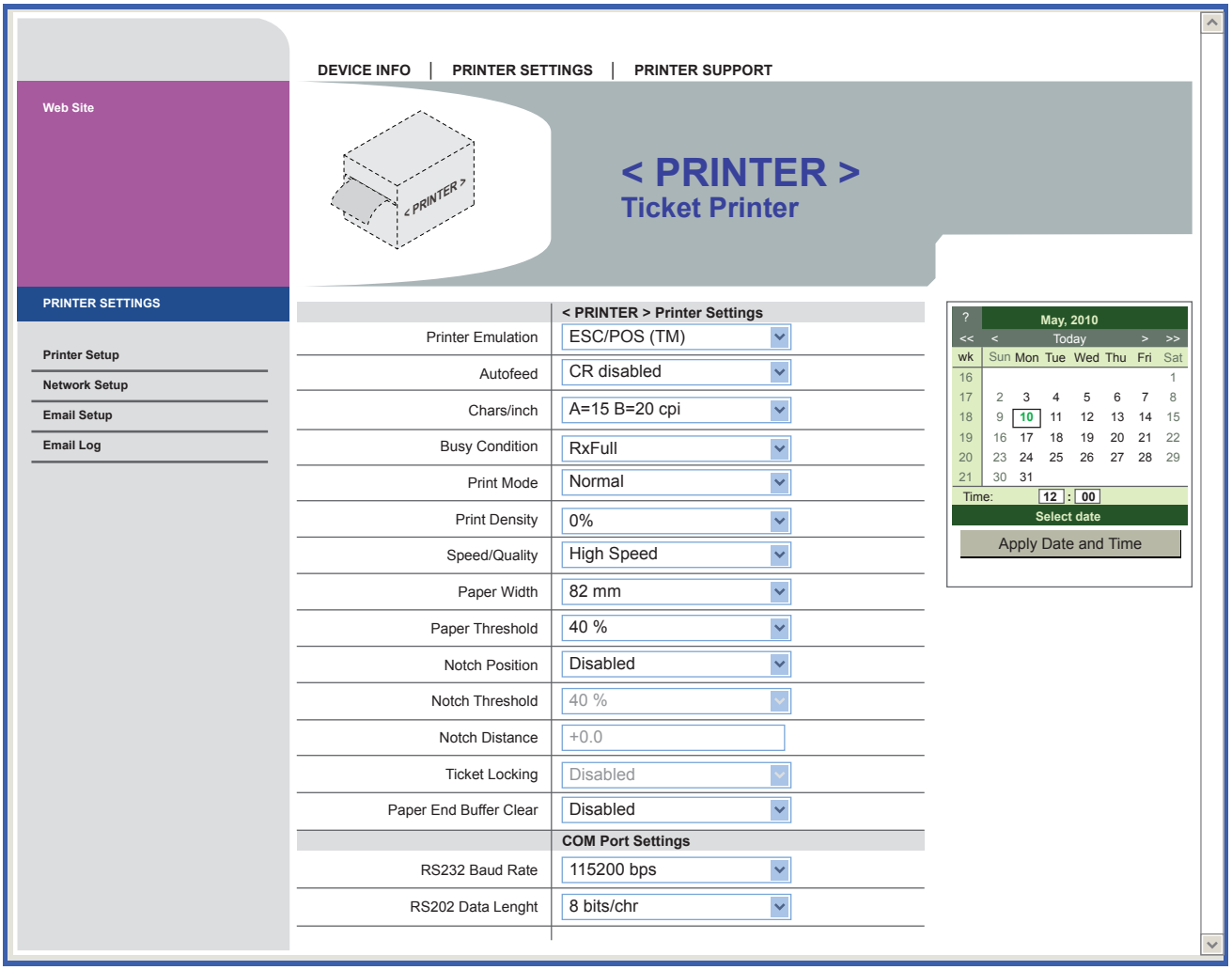
NOTE:
To know the IP address of the printer, print the Set-up report of the printer (see chapter 5) or use “Locator”. Type in the address bar “ftp://” followed by the IP address of the printer.

NOTE:
Uploading the new font directly from the “Font” folder of Microsoft® Windows® directory, remember that the displayed font name into the “Font” folder may not match the real name of the font file.

12.9 Setup

Embedded Web Server

Printer permits the configuration of default parameters for printer and network setup by entering the “PRINTER SETUP” page and the “NETWORK SETUP” page of the “PRINTER SETTINGS” section of the embedded Web Server (see the following figure).



Mass Storage / FTP Server

It is possible to configure the default parameters for printer and network setup by editing the “Setup.ini” file on the printer Flash Drive.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par.12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

After editing printer’s parameter, simply save the “Setup.ini” file to make the modifies activated.

The “Setup.ini” file is a configuration file that contains all the configurable parameters listed in text format and divided into some sections (indicated in square brackets).
The available values for every parameter, are listed after the parameter name. The value marked with the symbol ‘ * ’ is the default one.
To modify printer’s parameters, change the numeric value after the name of parameters. To set the parameter to the default value, change the numeric value with the symbol D.
The “Setup.ini” file permits the configuration of the following parameters:

[PRINT]

Printer Emulation:	0, 1*	0 = ESC/POS™ 1 = SVELTA		
Print Mode:	0*, 1	0 = Normal 1 = Reverse		
Autofeed:	0*, 1	0 = CR disabled 1 = CR enable		
Chars / inch:	0, 1*	0 = A=11 B=15 cpi 1 = A=15 B=20 cpi		
Speed / Quality:	0, 1, 2*	0 = High Quality 1 = Normal	2 = High Speed	
Paper Width:	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14*, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	0 = 54 mm 1 = 56 mm 2 = 58 mm 3 = 60 mm 4 = 62 mm 5 = 64 mm 6 = 66 mm 7 = 68 mm 8 = 70 mm 9 = 72 mm 10 = 74 mm	11 = 76 mm 12 = 78 mm 13 = 80 mm 14 = 82 mm 15 = 20mm 16 = 22 mm 17 = 24 mm 18 = 26 mm 19 = 28 mm 20 = 30 mm 21 = 32 mm	22 = 34 mm 23 = 36 mm 24 = 38 mm 25 = 40 mm 26 = 42 mm 27 = 44 mm 28 = 46 mm 29 = 48 mm 30 = 50 mm 31 = 52 mm
Paper Threshold:	0, 1, 2, 3*, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
Notch/B.Mark Position:	0*, 1, 2, 3	0 = Disabled 1 = Top	2 = Bottom 3 = Transparence	
Notch/B.MarkThreshold:	0, 1*, 2, 3, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
Notch Distance [mm]				
Ticket Locking:				
models without triple feeder	0*, 1	0 = Disabled 1 = Enabled		
models with triple feeder	0*, 1, 2, 3	0 = Disabled 1 = By Printer	2 = By Feeder 3 = Complete	
PaperEnd Buffer Clear:	0*, 1	0 = Disabled 1 = Enabled		

Ticket Management:	0*, 1, 2	0 = Disabled 1 = Short Ticket	2 = Check First	
Paper End Management: *(models with triple feeder)*	0*, 1, 2	0 = Print All 1 = Eject	2 = Retract	
RFID Module Baud Rate:	0*, 1, 2, 3, 4, 5, 6, 7, 8	1 = 38400 bps 2 = 57600 bps 3 = 115200 bps	4 = 1200 bps 5 = 2400 bps 6 = 4800 bps	7 = 9600 bps 8 = 19200 bps
Print Density:	0, 1, 2, 3, 4*, 5, 6, 7, 8	0 = - 50 % 1 = - 37 % 2 = - 25 %	3 = - 12 % 4 = 0 % 5 = + 12 %	6 = + 25 % 7 = + 37 % 8 = + 50 %

[INTERFACE]

RS232 Baud Rate:	1, 2, 3, 4, 5, 6, 7, 8*	1 = 1200 bps 2 = 2400 bps 3 = 4800 bps	4 = 9600 bps 5 = 19200 bps 6 = 38400 bps	7 = 57600 bps 8 = 115200 bps
RS232 Data Length:	0*, 1	0 = 8 bits/chr 1 = 7 bits/chr		
RS232 Parity:	0*, 1, 2	0 = None 1 = Even	2 = Odd	
RS232 Handshaking:	0*, 1	0 = Xon/Xoff 1 = Hardware		
Busy Condition:	0*, 1	0 = RxFull 1 = OffLine/RxFull		
USB Mass Storage:	0*, 1	0 = Disabled 1 = Enabled		
USB Address Number:	0*, 1, 2, 3, 4, 5, 6, 7, 8, 9	0 = 0 1 = 1 2 = 2 3 = 3	4 = 4 5 = 5 6 = 6 7 = 7	8 = 8 9 = 9

[SVELTA]

Ticket X Dimension
Ticket Y Dimension
Notch Distance
Notch Width
Barcode Timeout
Ticket Offset X
Ticket Offset Y

[NETWORK]

DHCP Client:	0*, 1	0 = Disabled 1 = Enabled	
FTP Server:	0*, 1	0 = Disabled 1 = Enabled	
IP Address			

Subnet Mask

Default Gateway

Domain Name System

TCP Printer Port

MAC Address *(Read only)*

NOTE:
To know the IP address of the printer, print the Set-up report of the printer (see chapter 5) or use “Locator”. Type in the address bar “ftp://” followed by the IP address of the printer.

Part Number : 7620000000900 Rev. 2.00

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